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THE INTERSECTION OF NEWS FRAMES: EXAMINING THE TOP TWO
HEALTH PROBLEMS IN THE UNITED STATES

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
In partial fulfillment of the
Requirements for the degree of
Doctor of Philosophy

in

The Manship School of Mass Communication

by

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December 2006

ACKNOWLEDGEMENTS

I am very thankful to my parents, Dr. Donald Wade Hatley and Mikell Sue Hatley for their support and for fostering my creativity, curiosity, and a love of knowledge and books. I thank my brother, John Christopher Hatley for always offering me words of encouragement and believing I could accomplish my goals.

I am so appreciative to my Committee Co-chairs, Dr. Renita Coleman and Dr. Robert Kirby Goidel for all of their guidance and support during my doctoral program. Dr. Coleman has been a tremendous mentor and a good friend who showed me how to be an academic citizen. Dr. Goidel taught me to ask and answer the tough questions and always reminded me what was and was not significant. Thank you to Dr. Margaret DeFleur who helped me understand how to combine mass communication and health communication to advance theory in both fields. I sincerely appreciate Dr. Andrea Miller for being a mentor to me and always listening to my ideas and discussing research with me. Thank you also to Dr. Denis Wu for his advice, encouragement, and methodological clarity. Many thanks to Dr. Richard White for never letting me forget the importance of writing and staying focused. I wish to acknowledge Dr. John Maxwell Hamilton, Dean of the Manship School of Mass Communication for his support and guidance. I especially thank the people and pets (especially M and P) who contributed to my doctoral education as volunteers, editors, cheerleaders, you are greatly appreciated.

Most importantly, I want to thank my husband, Allen C. Major, for his never-ending love and support. Words cannot convey how much I appreciate the encouragement, laughter, and comfort provided by him during these past years.

Lesa Hatley Major
August 2006

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
ABSTRACT.....	v
CHAPTER	
1 INTRODUCTION.....	1
2 REVIEW OF LITERATURE.....	5
Theoretical Foundation.....	5
The Public Health Model of Reporting.....	7
Defining Health Problems.....	8
The Role of Journalists in Health Reporting.....	11
Individualism and Health.....	12
The Ecological Approach to Health Problems.....	14
Dimensions of Framing.....	15
Cognitive Dimension of Frames.....	16
Affective Dimension of Frames.....	17
Thematic and Episodic Frames.....	18
Research on Thematic and Episodic Frames.....	20
Gain and Loss Frames.....	21
Research on Gain and Loss Frames.....	23
Evidence for a Bias toward Negative Information.....	25
Hypothesis 1	29
Hypothesis 2.....	29
Need for Orientation.....	29
Perceived Susceptibility.....	31
Behavioral Intentions.....	32
Research Question 1.....	33
Framing and Emotions.....	33
Research Question 2.....	35
Top Health Problems in the United States.....	35
Lung Cancer.....	36
Obesity.....	40
News Media Coverage of Health Issues.....	48
News Media Coverage of Lung Cancer.....	49
News Media Coverage of Obesity.....	51
Rationale for Study.....	53
3 METHODOLOGY.....	55
Stimulus Materials.....	55
Participants.....	58
Procedure.....	58
Manipulation Checks.....	59
Need for Orientation Index.....	60

Dependent Variables and Measures.....	61
4 RESULTS.....	64
Descriptives.....	64
Hypothesis 1.....	65
Hypothesis 2.....	65
Research Question 1.....	68
Research Question 2.....	69
5 DISCUSSION.....	72
Social Responsibility.....	72
Individual Responsibility.....	73
Individual Differences and Social Responsibility.....	75
Individual Differences and Individual Responsibility.....	75
Negative Emotions.....	76
Positive Emotions.....	78
Main Effects.....	79
Summary.....	81
6 CONCLUSIONS.....	83
REFERENCES.....	88
APPENDIX	
A QUESTIONNAIRES.....	103
B CODING SHEET AND CODING BOOK.....	115
VITA.....	118

ABSTRACT

This research tests the public health model of reporting to discover if changing the way newspaper stories frame the top two health concerns in the United States – cancer and obesity – affects readers’ view of the problem. Using an experimental design, this study manipulated the context of newspaper stories about cancer and obesity. Applying thematic (broader context) and episodic (individual or event) framing concepts and gains (emphasizes benefits – e.g. lives saved) and losses (emphasizes costs – lives lost), this research revealed how the differences in framing affect public opinion about cancer and obesity. This research expands framing theory by showing that the effects of thematic/episodic framing are intensified when combined with gain/loss framing concepts from prospect theory. Overall, this study advances understanding of how framing affects attribution of responsibility and informs the comprehension of the effectiveness of health news and communication messages.

Two-hundred-and twenty-nine adults from the South, West, and Southwest were recruited to participate in this study. The findings of this study provide support for the public health model of report and strongly indicate combined news frames influence framing effects. In this study, the combination of the thematic loss frames and episodic gain frames led to significant findings. These results clearly support the theoretical argument that intersecting frames generate more detailed information processing among audiences and intensify media effects. The findings have implications for future research on the use of news frames to discuss health and other policy issues.

CHAPTER 1- INTRODUCTION

Over the last twenty-five years, the news media's role in providing significant health information to the public has grown substantially (Campos-Outcalt, 2004; Friemuth, Hammond, & Stein, 1984; Signorielli, 1993; Simpkins & Brenner, 1984). In fact, given that most people do not interact with their physicians on a regular basis, the news media are in all likelihood the public's most important and consistent source of health information (Schwitzer, Mudur, Henry, Wilson, Goozner, Simbra, Sweet, & Baverstock, 2005). Health communication research demonstrates the mass media may be even more important than interpersonal communication in increasing awareness and knowledge of health issues (Fishman & Casarett, 2006). As news media coverage of health issues has increased, so has its use by public health experts for educating the public about significant health problems and concerns (Cooper & Roter, 2000).

For the most part, public health experts and the news media do not share a collaborative and productive relationship. Primarily disappointed with media coverage of health topics, many public health experts aim to change the way journalists report health news (Dorfman, Wallach, & Woodruff, 2005). One of the complaints leveled against journalists stems from the news media's continuous framing of health problems as individual problems as opposed to societal problems with many underlying causes. Numerous public health experts, including epidemiologists, assert societal conditions cause health problems and diseases not solely individual behavior. They fervently argue that if journalists would frame health problems more often in terms of environmental causes and public policy solutions, the public would attribute responsibility for these problems to society resulting in increased public political participation and collective action (Wallach, Dorfman, Jernigan, & Themba, 1993). This is a style of news coverage described as the public health model of reporting (Wallach et al., 1993).

For example, research shows less affluent neighborhoods have fewer options for healthy foods. Using the public health model of reporting, a journalist would explain grocery stores in these areas are less likely to sell fresh fruits and vegetables compared to stores in more affluent neighborhoods (Gordon-Larsen, Nelson, Page, & Popkin, 2006). Poorer neighborhoods are more likely to have fast food restaurants as opposed to wealthier areas (Gordon-Larsen, Nelson, Page, & Popkin, 2006). The lack of access to healthier food options increases the incidence of overweight and obesity in poorer neighborhoods. The problem involves the underlying conditions of limited access to and availability of healthier foods and of socioeconomic level rather than simply individual responsibility and choice.

Public health research consistently focuses on altering the way reporters frame health problems and conditions (Dorfman, Wallach, & Woodruff, 2005; Dorfman & Wallach, 1998; Lawrence, 2004; McManus & Dorfman, 2005). Yet, no one has tested the public health model of reporting using traditional health problems to ascertain how it affects audience members. In other words, no empirical evidence exists to support the effects of the public health model of reporting. In fact, it is possible that audience members will not respond to this type of reporting the way public health experts want because the media and public health experts have told people for years that individual behavior is the key to prevention and being healthy.

Framing concepts are of primary interest to numerous researchers as way to describe the influence of the press on individuals' information processing and social judgments (Cappella & Jamieson, 1997; Iyengar, 1991; Shah, Kwak, Schierback, & Zubrick, 2004; Shah, Domke, & Wackman, 1996). These scholars argue journalists emphasize specific orienting and organizing schemes over others in their news coverage, subtly changing the thought activation about a topic among audience members (Pan & Kosicki, 1993; Price & Tewksbury, 1997). This process, leads

people to form individual interpretations of issues and act in ways that support these views (Shah, 2001).

Research demonstrates shifts between news frames (e.g. political strategy versus policy, episodic versus thematic) influence the process and outcome of social judgments ranging from political cynicism to electoral support (Cappella & Jamieson, 1997; Iyengar, 1991; Shah et al., 1996). The impact of news stories containing multiple, crosscutting frames that combine various categories (e.g. episodic-strategy coverage or episodic-policy coverage) have on audience members has received little scholarly attention (Shah et al., 2004). Combining certain attributes or news frames seems likely to intensify or diminish effects on audiences (Shah et al., 2004).

This research tests the public health model of reporting to discover if changing the way newspaper stories frame the top two health concerns in the United States – cancer and obesity – affects readers' view of the problem. Using an experimental design, this study manipulates the context of newspaper stories about cancer and obesity. Applying Iyengar's (1991) thematic (broader context) and episodic (individual or event) framing concepts and Kahneman and Tversky's (1984) gains (emphasizes benefits – e.g. lives saved) and losses (emphasizes costs – lives lost), this research will reveal how the differences in framing affect public opinion about cancer and obesity. The findings will determine if the public health model of reporting influences audiences the way experts would like. It will provide public health experts and journalists with the information needed to tell the public health story in the most effective way. This research will expand framing theory by showing that the effects of thematic/episodic framing (Iyengar, 1991) are intensified when combined with gain/loss framing concepts from prospect theory (Tversky & Kahneman, 1981). Overall, this study will advance understanding of how framing affects attribution of responsibility and informs the comprehension of the effectiveness of health

news and communication messages. This study will provide the foundation for an untapped and promising avenue of framing research.

CHAPTER 2 - REVIEW OF LITERATURE

Theoretical Foundation

Framing theorists have long recognized information processing is influenced through an assortment of cognitive heuristics and biases (Shah et al., 2004). The classic prospect theory studies of Tversky and Kahneman (1981) examined how seemingly unimportant changes altered decision making because of the application of judgmental heuristics (Shah et al., 2004). These scholars found that people are inclined to take risks when choices emphasize losses but to be risk-averse when they emphasize gains (Kahneman & Tversky, 1984).

Research by Iyengar (1991) considered the role of attributional biases in news framing effects (Jones, 1991; Ross, 1977). He asserted journalists commonly construct social issues around specific instances and individuals (episodic framing) that encourage "attributions of responsibility both for the creation of problems or situations (causal responsibility) and for the resolution of these problems or situations (treatment responsibility)" to the people featured in news stories (Iyengar, 1991, p.3). In contrast, news that emphasized broader trends and social conditions (thematic framing) is thought to foster a sense of shared responsibility and prompt collective action (Iyengar, 1991). A series of experimental studies concerning crime, poverty, and unemployment provided support for these claims. Supplementing Iyengar's work is Entman's oft-cited definition of framing: "To frame is to select some aspects of a perceived reality and make them more salient in a communicating text" (1993 p. 52). Entman (1993) also suggested four functions of news frames:

"Frames...define problem -- determine what a causal agenda is doing with what costs benefits, usually measured in terms of common cultural values; diagnose causes -- identify the forces creating the problem; make moral judgments -- evaluate causal agendas and their effects; and suggest remedies -- offer and justify treatments for the problems and predict their likely effects (p. 52)".

The four functions described by Entman closely resemble the type of framing some public health experts believe would lead to a healthier public if reporters used frames that defined problems thematically. The news media are in the unique position to stimulate individuals to contemplate and discuss specific issues, while keeping other issues from public view. By using information presented by the media, Iyengar (1991) observed that people are able to establish reference points about what is significant and to contrast what they already know, or think they know, about what is good or bad, and what should be done to solve problems.

Furthermore, the news media have the ability to “frame issues and public deliberation in a particular way” (Reese, 2001, p. 25). Thus, the contemporary news media perform the role of political actor in public discourse, social movements, and political debates because they have the capability to emphasize the significance of certain issues while downplaying others. “Frames invite us to think about social phenomena in a certain way. Framing studies have examined, for example, the effects of information emphasizing positive or negative aspects, the individual or the collective, and the episodic or the thematic” (Reese, 2001, p. 27).

Oft-times compared to a frame around a painting, the news frame draws attention to a specific picture and detaches told from untold pieces of the story. Elements in the story are said to be in the frame; elements not included are said to be out of the frame and are considered less significant or less reasonable (Dorfman, Wallach, & Woodruff, 2005). McCombs defined framing as "the selection of a restricted number of thematically related attributes for inclusion on the media agenda when a particular object is discussed" (McCombs, Shaw, & Weaver, 1997, p. 37). News frames organize the meaning in stories delineating what is and is not significant.

This study will extend framing theory by intersecting thematic and episodic frames with loss and gain frames. Combining news frames remains an area of research few scholars have

considered (see Shah et al., 2004). There are numerous reasons to think that crossing these frames will influence framing effects. Building upon the work of Tversky and Kahneman, this research adopts the view that losses typically loom larger than gains. Specifically, the framing of health problems using loss language will affect audience members more than gain language. This is consistent with research that found negative information and negative emotions foster more thorough information processing which will increase or decrease participants' level of responsibility attribution (Shah et al, 2004).

While framing theory provides the theoretical foundation for this study, what public health experts desire to achieve with audience members is grounded in second-level agenda setting theory. Analyzing the tone of news coverage is an essential part of what is defined as "second-level" or "attribute" agenda-setting (Kim, Scheufele, and Shanahan, 2002). "In second-level agenda setting theory, the hypothesis is that both the selection of topics for attention and the selection of attributes for thinking about these topics play powerful agenda-setting roles" for audience members (Hester & Gibson, 2003, p. 74). Some public health experts aim to alter the public's agenda of attributes concerning health problems from individual attribution of responsibility to societal attribution of responsibility. These public health experts strongly believe they will accomplish this goal only if reporters use the public health model of reporting.

The Public Health Model of Reporting

Within the public health model, causes that lead to injury and death are thought to be preventable instead of inevitable (Coleman & Thorson, 2002). By investigating the connection among the victims, the agent, and the environment, public health experts endeavor to pinpoint risk factors, then design and assess methods to prevent problems that imperil public health (Coleman & Thorson, 2002). The model's principal aim is to change the underlying conditions in

society that lead to and prolong such problems (Mercy, Rosenberg, Powell, Broone, & Roper, 1993). For years, public health experts have recognized the power of the news media to alter the conditions that cause public health problems. Many communication experts argue the news media's focus on stories of individual suffering and struggle has resulted in the public blaming individuals for their health problems as opposed to holding society, government or other institutions responsible when appropriate (Dorfman, Wallach, & Woodruff, 2005; Dorfman & Wallach, 1998; Iyengar, 1991; Lawrence, 2004; McManus & Dorfman, 2005).

Public health experts assert a many health and social problems are related to conditions beyond an individual's control (Wallach et al., 1993). They argue that news coverage focusing on personal behavior change ultimately fails society because it limits possible solutions including policy and social change strategies and political participation (Dorfman, Wallach, & Woodruff, 2005). As Blum (1980) reports, "there is little doubt that how a society views major problems...will be critical in how it acts on the problem" (p. 49). Once the definition of a problem changes so will the response to the problem (Powles, 1979; Watzlavick, Weakland, & Fisch, 1974). Problem definition is a battle to determine which group and which perspective will gain primary ownership of the problem's solution (Wallach et al., 1993).

Defining Health Problems

In the United States, people attempt to develop clear and concise definitions of problems in order to develop concrete, commonsense type solutions (Wallach et al., 1993). This pragmatic approach has very strong appeal (Wallach et al., 1993). Most health and social well-being problems are hard to define, much less solve, and increasing levels of problem complexity are linked with rising degrees of disagreement in definition (Wallach et al., 1993). People try to simplify problems by breaking them down into basic elements that are easier to manage. In most

cases, health problems are identified as biological with a medical solution, or as resulting from a lack of information, meaning the solution lies in education (Wallach et al., 1993). This misguided pragmatism, for example, reduced society's drug problem, an enormously complex issue involving every level of society, to the failure of the individual to "just say no" and resist the temptation to take drugs (Wallach et al., 1993). Generally, people reduce diseases to cognitive, behavioral, or genetic elements (Wallach et al., 1993). For example, public and private institutions end up allotting significant resources to identifying the gene for alcoholism while leaving the decisions and the activities of the alcoholic beverage industry largely unexamined, thus alleviating them of responsibility (Wallach et al., 1993).

An alternative approach involves viewing health problems and conditions as part of a broader context. This approach has a long history within the field of public health. In the 1960s, public health experts recommended adding safety features to cars, wearing seatbelts, and not drinking and driving to decrease the number of automobile deaths and injuries (Coleman & Thorson, 2002). Until the 1960s, society blamed "the nut behind the wheel" for traffic accidents (Stevens, 1997, p.11). Prevention strategies were limited to requesting people to drive more safely. As researchers started recognizing societal and environmental risk factors and their roles in auto crashes, public health advocates sought to change the coverage of these events by presenting the findings to the news media. News stories started including the type of cars involved in accidents, as well as hazardous road and weather conditions. Shortly, the public's views about the reasons for auto deaths and injuries changed, and the public passed more social policies to discourage drunk driving, build safer roads, and compel car manufacturers to design safety features into cars (Coleman & Thorson, 2002). The rate of automobile deaths and injuries declined (Stevens, 1997).

In the 1990s, public health experts argued that crime and violence should be considered a public health threat and approached in the same way as any other deadly social disease (Dorfman, Woodruff, Chavez, & Wallach, 1997). Many factors lead to violent behavior including poverty, racial segregation and discrimination, unemployment, alcohol, firearms, the portrayal of violence in the media, lack of education, child abuse, childhood exposure to violence, and the belief in male dominance (Stevens, 1997, p. 1). Public health experts promoted including information in news stories that identified and discussed the societal factors linked to crime and violence in an effort to help the public understand the scope of the problem (Coleman & Thorson, 2002). The intention was to shift the responsibility from the individual to society in an effort to redefine the problem thus, its solution. Public health experts are now focusing that same attention on other public health problems and conditions including obesity-related illnesses and lung cancer risks associated with secondhand smoke.

Obesity for example, rather than being viewed as unhealthy eating habits or stupidity, can be seen as a function of a corporate enterprise that vigorously endorses the use of health-compromising products (Lawrence, 2004). Decisions made by individual about whether or not to consume unhealthy foods could be seen as inextricably linked to decisions at the corporate level regarding production, marketing, and extensive promotion (Lawrence, 2004). Eating unhealthy, in this larger context, is seen as part of a bigger system in which the individual is one part, rather than merely as a result of individual decisions (Lawrence, 2004). This type of analysis takes the problem definition upstream. Upstream factors include laws, regulations, policies and institutional practices, prices, and product standards that influence the personal health choices of often millions of individuals and the environments in which they work and live (Chapman, 2001). To change upstream factors, public health experts must get the news media to frame

health issues in terms of upstream problem definition. This is where the objectives of a number of public health experts and a number of journalists collide.

The Role of Journalists in Health Reporting

Some journalists maintain their role and responsibility in reporting health information is no different than reporting information about politics, business, or any other topic (Schwitzer, Mudur, Wilson, Goozner, Simbra, Sweet, & Baverstock, 2005). These journalists say their chief concern is accurate, clear reporting – they are less concerned about the consequences of their story once it is published (Lantz & Lanier, 2002). Public health experts contend this type of approach often leads to sloppy journalism and possible harm to the public (Schwitzer, 2003). Some evidence indicates newspapers have begun to emphasize public health issues and include more environmental factors in their coverage of alcohol (Lemmens, Vaeth, & Greenfield, 1999). Another study revealed while the most newspaper coverage remains primarily episodic as opposed to thematic, an emerging trend exists toward including more context, analysis, and interpretation in news stories about crimes and accidents (Barnhurst & Mutz, 1997).

The public journalism movement, or civic journalism, also has encouraged the news media to provide a contextual framework to help individuals comprehend the complexities of most issues (Merritt, 1995). Although including contextual information is only one of the changes public journalism supports, studies show newspapers practicing the public journalism approach are more likely to include contextual information (Blazier & Lemert, 2000). For the most part, the news media routinely fail to include public health information in their coverage (Dorfman et al., 1997; Stevens, 1998). The majority of research analyzing news stories about conventional health problems such as illness and disease, report infrequent inclusion of contextual information advocated by public health experts (Coleman & Thorson, 2002). Findings

from several studies indicate this also is also the case for science stories (Friedman, Gomey, & Egolf, 1992; Logan, 1998; Logan, Zengjun, & Wilson, 2000; Nelkin, 1995).

Merritt (1995), one of the originators of the public journalism movement, refers to Iyengar's finding concerning thematic and episodic reporting in his appeal to journalists to begin "framing issues more broadly" (p. 74). Merritt contends thematic coverage which includes a complete discussion of underlying issues helps encourage the "true deliberation" that is required to "revitalize public life" – the fundamental goal of the public journalism approach (Merritt, 1995, p. 74). Public health experts share a similar objective. They believe changing the news media's focus from personal behavior and individual responsibility to a broader approach will lead to greater political participation resulting in an increase of possible solutions such as policy and social change strategies (Dorfman, Wallach, & Woodruff, 2005).

Dorfman et al. (2005) maintain it is not unexpected that most news coverage would promote interpretations of personal responsibility in audiences. Individualism lies at the base of how we reason about health and disease, economics, and social policy. It is an invisible unseen hand that guides societal thought and action (Wallach et al., 1993).

Individualism and Health

"Individualism," notes Bellah, Masden, Sullivan, Swindler, and Tipton (1986, p. 1142) in their seminal work on American life, "lies at the very core of American culture." Ideas about individualism and self-determination are fundamental to the economic and social structure of American society practically carrying a spiritual mystique. Individualism plays a key role in America's classical liberal heritage (Ladd, 1981). The news media, as an essential part of American culture, mirror the dominant values of that culture; therefore, individualism, the first language of America, is also dominant in news stories (Dorfman, Wallach, & Woodruff, 2005).

Journalists are not the only professionals who focus on individuals. Individuals are one of the essential units of health education and health behavior theory, research, and practice. A wide range of health professionals, including health educators, physicians, psychologists, dietitians, and nurses, concentrate all or most of their efforts on changing the health behavior of individuals (Glanz, Rimer, & Lewis, 2002). In fact, the model of public health - the collective health of populations and their environment - espoused by early public health practitioners has long contended with competing theories that center on individual behavior or "lifestyle" (Tesh, 1988). During the last forty years in particular, the traditional approach has "subtly yielded to a far more individualistic model in which each person [is] considered responsible for his or her own health status" (Garrett, 2000, p. 391).

Many health professionals maintain understanding individual health behavior is the key to successful intervention and to making informed judgments about how to measure the success of such interventions (Glanz, Rimer, & Lewis, 2002). Lewin's seminal Field Theory (1935) was one of the early and most far-reaching theories of behavior. Field Theory is the "proposition that human behavior is the function of both the person and the environment" (Glanz, Rimer, & Lewis, 2002, p. 49). This means one's behavior is related to one's personal uniqueness and to the social situation in which one finds oneself. Most contemporary theories of health behavior are derived from Lewin's work (Glanz, Rimer, & Lewis, 2002). Theories that examine barriers and facilitators to behavior change and those that posit stages of behavior change are based on the Lewinian approach.

During the 1940s and 1950s, researchers began to understand how individuals made decisions about health and what determines health behavior. In the 1950s, Rosenstock, Hochbaum, and others from the U.S. Public Health Service developed the Health Belief Model

(HBM) in an effort to understand why people failed to participate in tuberculosis screening programs (Glanz, Rimer, & Lewis, 2002). In the last 20 years, progress has been made in identifying and understanding the determinants of individual health-related behavior and discovering ways to inspire positive behavior change. Today, many public health workers and experts continue to focus on individual behavior and change while others prefer an ecological approach that considers multiple levels of influence on health behaviors.

The Ecological Approach to Health Problems

The ecological approach posits that individual behavior is influenced by intrapersonal, sociocultural, policy, and physical-environmental factors (Glanz, Rimer, & Lewis, 2002). These variables interact, and multiple levels of environmental variables are identified as relevant to understanding and changing behaviors. This includes identifying and changing upstream factors. McLeroy, Bibeau, Steckler, and Glanz (1988) proposed an ecological model of health behaviors that identified multiple levels of influence. The approach was designed to help researchers and practitioners systematically assess and intervene on each level of influence. The five levels of influence are intrapersonal factors, interpersonal processes and primary groups, institutional factors, community factors, and public policy. This approach identifies specific levels of analysis that are most relevant for explaining and changing health behaviors. Much of what is described in the public health model of reporting is found in ecological models of health behavior. For public health experts to apply the ecological model of health behavior successfully to health problems, they must get journalists to practice the public health model of reporting and increase thematic news coverage of health problems.

But in their zeal to increase thematic coverage of health problems and issues, researchers have failed to examine in any significant way how this type of framing influences audience

members. Little research has been conducted to determine if thematic news coverage has the desired effect on audience members that public health experts seek. The majority of studies testing the impact of thematic and episodic coverage on audience members have involved issues such as international terrorism, crime, violence, poverty, unemployment, racial inequality, and the economy (Coleman & Thorson, 2002; Cappella & Jamieson, 1997; Iyengar, 1991; Shah, Domke, & Wackman, 1996). Increasing the amount of thematic coverage of health issues, while a significant part of changing how public health problems are defined, is only one part of the process. In order for public health experts to change upstream factors, audience members must respond to thematic news coverage of health stories by attributing responsibility for the problems to society. This research tests the public health model to determine if manipulating thematic/episodic news frames and gain/loss news frames has an effect on how audience members attribute responsibility for cancer and obesity.

Dimensions of Framing

Researchers have used a variety of frames to analyze issues, but Ghanem (1997) created four dimensions to allow for generalizeability across issues. These include: subtopics, framing mechanisms, cognitive elements, and affective elements. This study will manipulate the cognitive and affective dimensions and hold constant the framing mechanisms dimension. Subtopics will not be addressed in this research.

Based on work by Gamson and Modigliani's (1989) discussion of framing devices and reasoning devices, McCombs' (1992) assertion that news messages are both cognitive and affective, and Tankard's (1991) analysis of framing mechanisms, Ghanem (1997) created four dimensions to assist in the development of frames for analyzing an array of issues and topics. Critics assert many framing studies are weak because the frames of the issue or topic under

investigation lack generalizeability across issues (Ghanem, 1997). Even though the particular subdimensions are not generalizeable, Ghanem (1997) contends these four larger dimensions provide the basis of comparisons across many different issues.

Media scholars maintain that studies focusing solely on subtopics fail to build theory because the researcher typically develops a list of topic-specific frames based on his or her perceptions and then content analyzes the material on hand. The problem then becomes the shortage of distinction between content analysis in general and the examination of frames (Ghanem, 1997). Developing a list of frames for each topic is equivalent to and shares the limitations of the dictionary approach of computerized content analysis where unconnected dictionaries are created for specific dialogue (Krippendorff, 1980).

Framing mechanisms involve the investigation of the emphasis given to topics in the media including physical elements such as placement and size, as well as other components that affect the importance of a news item. Photographs, quotes, subheads, etc. all help give a story in a newspaper more prominence. Tankard, Hendrickson, Silberman, Bliss, & Ghanem (1991) acknowledged these focal points of news and categorized them as "framing mechanisms" (p. 15).

Cognitive Dimension of Frames

The cognitive dimension of frames "sheds light on whether the media and the audience are thinking about the problem in the same way" (Ghanem, 1997, p.13). Ghanem (1997) argued that cognitive categories may move us from topical categories by pinpointing meanings and understandings in issues no matter what the issue is. Ghanem places Iyengar's (1991) thematic and episodic coverage in the cognitive dimension of frames along with several other types of frames.

Edelstein, Ito, and Kepplinger (1989) looked at issues as problematic situations. If the media present news about a condition of conflict and the audience picks up on the conflict, then both the media and audience are in agreement (Edelstein, 1993). Hendrickson (1995) examined child maltreatment using an ecological framework consisting of five dimensions: the individual, the microsystem, the mesosystem, the exosystem, and macrosystem. The ecological framework or the problematic situation is employed based on whether the problem is identified from an individual or social perspective (Ghanem, 1997). Other researchers have used a causes and solutions framework to study issues including an investigation of the pollution problem in Austin, Texas (Maher, 1995) and one about social movements (Klandermans and Sidney, 1988). In their research, Yagade and Dozier's (1990) separated news frames into abstract or concrete categories linking concrete issues with visual and easy to understand topics.

Affective Dimension of Frames

The affective dimension of frames involves the public's emotional response resulting from news media coverage. Some researchers refer to the affective dimension of frames as whether the story receives positively or negatively coverage (McCombs & Evatts, 1995). McCombs & Evatts (1995) maintain that positive coverage of an issue by the news media results in positive evaluation of that issue by the audience. A positive/negative framing approach used routinely in health communication is the gain or loss framed message derived from prospect theory (Kahneman & Tversky, 1981). Mostly the gain and loss framed concept has been investigated when used for prevention campaigns and intervention messages; no study has used it for the affective dimension of frames when considering health problems covered in the news media.

To analyze cancer and obesity, this study will manipulate the cognitive dimension of frames using episodic and thematic coverage as a framing device and the affective dimension of frames by using gain and loss coverage as a framing device. An examination of current literature relevant to this study shows these framing devices are frequently used in research across a wide array of academic disciplines.

Thematic and Episodic Frames

In 1991, political scientist Shanto Iyengar demonstrated that a) most television news is framed in terms of individuals, what he labeled "episodic," and b) audiences interpret episodic stories in ways that are inclined to hold the victim responsible for their situation. The episodic news frame "takes the form of a case study or event-oriented report and depicts public issues in terms of concrete instances" (Iyengar, 1991, p.14), Examples of episodic coverage include the experiences of a lung cancer patient or obese person, an attempted murder, or the bombing of a commercial airliner.

Iyengar (1991) argued that news organizations report most stories without context, leading audiences to focus on the individuals in the stories. Presented with this situation, audience members are inclined to attribute responsibility to the people portrayed in the story for the problem and its solution. In other words, the blame is placed on the victim. If news coverage fails to include information about the forces that brought individuals in the story to a specific point, the audience is apt to dissociate itself from the "victims" portrayed in the news coverage, conclude that those portrayed in the story brought it on themselves and expect them to work harder to resolve their own problems or suffer the consequences of their actions (Dorfman et al, 2005). Episodic stories provide the audience little insight into the larger social and political circumstances contributing to the individual problem (Dorfman et al, 2005). The essential

argument is that attribution of responsibility - which is critical to the exercise of civic control - is very much a function of how news frames the issues (Iyengar, 1991). "By presenting the news in either thematic or episodic form, news frames influence attributions of responsibility for both the creation of the problems or situations (causal responsibility) and for the resolution of these problems or situations (treatment responsibility)" (Iyengar, 1991, p. 3).

Thematic stories may engage viewers with a personal story, but they provide the audience more background, consequences, and other information that offers context. The thematic frame "places public issues in some more general or abstract context and takes the form of a 'takeout,' or 'backgrounder,' report directed at general outcomes or conditions" (Iyengar, 1991, p. 14). Examples of thematic coverage include reports on the lack of safe places to exercise and the shortage of grocery stores offering healthy foods, or policies reducing the serving sizes of portions in foods eaten away-from-home.

"The fundamental difference between episodic and thematic framing is that episodic framing depicts concrete events that illustrate issues, while thematic framing presents collective or general evidence," says Iyengar (1991, p. 14). Visually and descriptively, episodic coverage features good video or good stories, while thematic coverage features "talking heads." The presence or absence of talking heads is a critical diagnostic difference between the two news frames (Dorfman et al., 2005). Thematic coverage requires interviews with a variety of subject matter "experts" if it is to conform to norms of "objective" reporting. Episodic coverage typically excludes expert sources.

Iyengar (1991) found audience members who are presented thematic stories understand that responsibility for problems is shared between individuals and their institutions. These same audience members are more apt to recognize the government or other institutions have a role in

solving problems (Iyengar, 1991). News that underscores broader trends and social conditions is thought to cultivate a sense of shared responsibility and encourage collective public action (for example, voting for policy changes or supporting a grassroots movement advocating change) (Dorfman et al, 2005). Studies across a variety of public health issues support Iyengar's (1991) findings that typical news stories are covered episodically, focused on individuals or events.

Research on Thematic and Episodic Frames

An emphasis on episodic coverage has been reported in research on childhood lead poisoning (Bellows, 1998), childhood nutrition policy (Woodruff, Dorfman, Berends, & Agron, 2003), immunizations and other children's health issues (Lawrence, 2004), injury and violence (Chavez & Dorfman, 1996; Dorfman & Schiraldi, 2001; Dorfman, Woodruff, Chavez, & Wallach, 199; Jernigan & Dorfman, 1996; McManus & Dorfman, 2005), including the policy discussion surrounding guns (Woodruff & Villamin, 1997) and alcohol (Dorfman & Wallach, 1998). These findings parallel what Iyengar reported on a variety of other issues in the news media. The public health point of view, specifically, is rare in news coverage (Dorfman, Wallach, & Woodruff, 2005).

Researchers investigating children's issues covered in the news media report a great quantity of news discussing children's health, but modest in-depth coverage on the consequences of ill health or poor conditions for children, their families, or society at large (Dorfman et. al, 2005). For example, a study about childhood nutrition policy intended to ascertain the number of policy-related news stories found guidance for parents was the single largest subject in the sample. The study found advocates portrayed the problem of childhood obesity using environmental, upstream concepts (e.g. "super-sizing," too much TV and sedentary activity, and fast food in schools), but when they described the solutions, they went back to the individual and

discussed personal behavior (Dorfman et al., 2005). Their suggestions produced individually oriented "news-you-can-use pieces," which reporters favor but which typically undermine a public health approach to childhood obesity (Woodruff et al., 2003). A follow-up study added childhood immunization, childhood injury, and children's health insurance to the mix and supported the earlier results, going further to confirm that although children's health policy is covered in the news, the values underlying the policies are seldom articulated (Lawrence, 2004).

On the whole, these findings provide strong evidence that public health issues are rarely described thematically in news stories. The news media often fail to provide reports encouraging audiences to comprehend and ponder the fundamental reasons for problems or their possible policy solutions. Health stories, like other news coverage, emphasize values of individualism and personal responsibility (Dorfman, Wallach, & Woodruff, 2005).

This research manipulates thematic and episodic framed news coverage along with gain and loss framed news coverage to determine if these changes influence audience perception of obesity and cancer. Introducing the gain/loss framed categories may create contexts in which audiences are specifically likely or unlikely to produce inferences about the causes, components, and consequences of health conditions. These are inferences that may differ if audience members are presented with only thematic and episodic stories.

Gain and Loss Frames

Prospect theory examines individual decision making under conditions of risk (McDermott, 1998). One of the most significant insights offered by prospect theory is that the context of choice influences decision-making. Within this theory, it is acknowledged that many factors may affect the way in which specific situations or options are assessed (McDermott, 1998). Evaluation occurs on at least two different levels. The first level involves the

environmental context of a person's life including educational background and employment opportunities while the second encompasses specific aspects of the situation that poses a risk (McDermott, 1998). These are more proximal considerations that involve such factors as whether alcohol, drugs, or romantic attachments are involved in the high-risk situation.

Prospect theory posits people will make different choices depending on how information is framed (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981). Framing effects refer to the way in which information, options or choices can be affected by its context. In many circumstances, the individual making a decision lacks knowledge about the options available to him or her. When this occurs, how an individual makes a choice can be affected by the way in which options are presented by others including the news media (Tversky & Kahneman, 1981).

Two framing concepts used in studies based on prospect theory are gain or loss. Typically, gain framed messages emphasize the benefits (e.g., lives saved) of choosing a particular option. Loss framed messages emphasize the costs (e.g. lives lost) associated with not choosing a particular option. In general, a positive frame (or outcome focus) involves either the presence of positive outcomes or the absence of negative outcomes and a negative frame involves either the presence of negative outcomes or the absence of positive outcomes (Higgins, 1997, 1999). The emotional response the message elicits in the audience depends upon the type of frame used. Frequently, the gain frame leads to a positive emotional response and the loss frame leads to a negative emotional response. One important element in prospect theory is the observation that the tendency to avoid losses is stronger than the tendency to obtain gains (Kahneman & Tversky, 1984; Lopes, 1987). Several researchers have applied prospect theory's framing postulate to health information (Banks, Salovey, Greener, Rothman, Moyer, Beauvais,

1995; Block & Keller, 1995; Kalichman & Coley, 1995; Linville, Fischer, & Fischhoff, 1993; Rothman, Salovey, Antone, Keough, & Martin, 1993).

Research on Gain and Loss Frames

Studies show individuals are more likely to take risks when options emphasize losses but to be risk-averse when they emphasize gains (Kahneman & Tversky, 1984). Experiments exposing respondents to scenarios that were numerically comparable but framed in expressions of losses or gains established that message framing altered social judgment, with losses looming larger than gains for most individuals (Hale & Dillard, 1995; Quattrone & Tversky, 1988). Some experiments within the scope of prospect theory were conducted to ascertain whether decisions people make when outcomes involved only themselves varied from those made when outcomes involved other individuals.

Marteau (1989) presented medical students with medical problems in which some students playing the role of physician making decisions which affect the patients' health and others playing the role of patient making decisions which affect their own health. The students' decisions were influenced to about the same extent by the tendency to avoid losses and to obtain gains in both roles. Roszkowski and Snelbecker (1990) designed a study in which professional financial planners had to make decisions about investments in the stock market. For some planners, their own money was at stake while others decided about a client's money. While the results showed the planners were somewhat more cautious in handling their client's money than their own, they were inclined to obtain gains and avoid losses in both cases.

In 1997, Poppe and Valkenberg tried to verify whether prospect theory would hold when the outcomes were to be obtained by the decision maker him or herself and/or by another person. Similar to most social orientations research, but in contrast to the experiments by Marteau (1989)

and Roszkowski and Snelbecker (1990), the other was an unknown person for whose health or wealth the participants were not accountable due to some professional relationship. People tended to avoid loss instead of obtaining gain when outcomes involved themselves, but not when outcomes involved an unknown other. This finding has significant implications for social value orientations. If individuals are more likely to minimize their own loss than to strive for their own gain, while gain or loss for an unknown other is of no importance to them - one can expect - in terms of social value orientations - more individualism in a loss situation than in a gain situation. This type of response to gain and loss framed stories is imperative when considering the goals of the public health model of reporting.

Increases in advocated health behaviors have been observed after exposure to both gain and loss framed information (Broemer, 2002). Rothman et al. (1999) reported that gain framed messages are more successful when promoting preventive actions but loss framed messages are more successful when promoting detection behaviors. In terms of health communication, gain and loss frames have been analyzed most often in relation to prevention messages and intervention campaigns (Banks et al., 1995; Block & Keller, 1995; Kalichman & Coley, 1995; Linville et al., 1993; Rothman et al., 1993). These frames are commonly used in news media coverage and frequently appear in health news (Banks et al., 1995; Block & Keller, 1995; Kalichman & Coley, 1995; Linville et al., 1993; Rothman et al., 1993). Combining gain/loss framing with thematic/episodic framing provides the appropriate framework for examining how changes in news coverage of health issues impact public opinion since few health stories are simply written as thematic or episodic. Most news stories about health issues provide some content that is gain and/or loss framed. In fact, the news media have often been criticized for giving more attention to negative stories indicating the presence of risks than to positive ones

indicating the absence of risks (Siegrist & Cvetkovich, 2001; Koren & Klein, 1991; Cohen, 1983). One study found a difference in the frequency with which newspaper articles reported on two scientific studies published in the same issue of the *Journal of the American Medical Association*. More newspapers reported on the study indicating that the particular form of radiation investigated posed a risk for cancer than to report on the one indicating no cancer risks. Examples such as this and news media content analysis indicate that the media tend to follow the rule that "good news is no news" (Singer & Endreny, 1987).

A great deal of news media attention on health issues is accidents, hazards, and other risks to human health and well-being (Siegrist & Cvetkovich, 2001). Siegrist and Cvetkovich (2001) explored the possibility that this bias in reporting parallels a human psychological proclivity. Results from three investigations indicated people have more confidence in scientific studies that find evidence for health risks (negative results) as opposed to studies that report low or no risks (positive results). A number of studies using diverse judgment tasks demonstrate that negative information is generally given more weight than positive information (Taylor, 1991). Results of other studies suggest that people react more intensely to negative than positive information (Fiske, 1992). This phenomenon is commonly identified as the negativity bias toward information.

Evidence for a Bias Toward Negative Information

The principle of negativity bias holds that in most circumstances, negative events are more relevant, persuasive, dominant in combinations, and generally more effective than positive events (Rozin & Royzman, 2001). The processes whereby different pieces of information are integrated into a single judgment have been studied in a variety of ways. Kanouse and Hanson's (1972) comprehensive review shows that in a range of tasks (e.g. logical inference, risk-taking,

and moral reasoning) individuals give greater weight to negative stimuli than positive stimuli. Studies in experimental social psychology have consistently reported that negative information has a greater effect than positive information on how individuals process information, from initial attention to information to its later recall (Ito, Larsen, Smith, & Cacioppo, 1998; Pratto & John, 1991; Suslo, Ohrmann, & Arolt, 2001).

There is evidence that negative information plays a greater role in voting behavior (Aragones, 1997; Campbell, Converse, Miller, & Stokes, 1960; Kernell, 1977) and, more specifically, that U.S. presidents are penalized electorally for negative economic trends but reap few electoral benefits from positive trends (Bloom & Price, 1975; Claggett, 1986; Headrick & Lanoue, 1991; Nannestad & Paldam, 1997). Research shows that individuals rely on negative information more than positive information in shaping impressions of other people (Skowronski & Carlston, 1989). Stereotyping research also indicates the difficulty of inducing positive trait attributions as opposed to losing them (Rothbart & Park, 1986).

In terms of news coverage, Slovic (1993) examined the impact of different hypothetical news events on trust in the management of a large nuclear plant. Negative events indicating probable plant mismanagement had a significantly greater effect on changing levels of expressed trust than did positive events indicating normal operations. Negative events decreased expressed trust more than positive events increased it. Slovic (1993) established that an asymmetry exists between the creation and the destruction of trust; gaining trust is much harder than losing trust.

Researchers offer three independent, though not opposing explanations as to why individuals give greater weight to negative than positive information. The first is that negative information may be afforded greater weight because it is more diagnostic than positive information (Skowronski & Carlston, 1989). For example, all people, whether they are

trustworthy or not, sometimes display trustworthy behavior. Thus, information that an individual has behaved in a trustworthy manner has slight diagnostic worth. Truly untrustworthy action, however, occurs less frequently and is engaged in only by those who are untrustworthy. Untrustworthy behavior is, therefore, more diagnostic than trustworthy behavior because it permits one to differentiate between trustworthy and untrustworthy individuals (Siegrist & Cvetkovich, 2001).

The second possible reason people place more significance on negative than positive information is that it is extremely important for most individuals to avoid losses (Highhouse & Paese, 1996; Kahneman & Tversky, 1984). Loss aversion, one of the most fundamental and well-documented biases in information processing, is a typical illustration of negativity bias in the form of potency (Rozin & Royzman, 2001). The principle of loss aversion is at the core of prospect theory. Loss aversion holds that losses are more negative than corresponding gains are positive (Kahneman & Tversky, 1979; Tversky & Kahneman, 1981). For instance, most respondents in a sample of undergraduates were not willing to bet \$10 on the toss of the coin if the possible win was less than \$30 (Kahneman & Tversky, 1984). Because of an overwhelming aversion to loss, people may weigh negative information as more important than positive information.

The third reason as to why negative information may have more influence is because it is perceived as more credible than positive information. Positive information can be self-serving (Siegrist & Cvetkovich, 2001). Negative information often lacks this quality. It may seem, therefore, that it is less likely that negative information will be communicated in an effort to persuade and influence.

There is ample evidence suggesting that responses to negative events and information are more differentiated and complex (Rozin & Royzman, 2001). Individuals probably have more appraisal to do on negative events, because the response options are more diverse (fight, flight, slow withdrawal, or freezing), as opposed to the straightforward approach response to positive events. Negative events elicit more causal attribution than positive events (Bohner, Bless, Scharz, & Strack, 1988) and are perceived as more complex (Peeters & Czapinski, 1990). Across cultures, people seem to seek more explanations for negative than positive events and circumstances (Rozin & Royzman, 2001).

Negativity bias is far from universal. On the contrary, sufficient evidence exists for a positive bias that an entire book, *The Pollyanna Principle* (Matlin & Stang, 1978) has sufficiently documented the wide range of positive biases. These appear in higher frequency of positive words, positive experiences, and positive views of the world, and in other domains. Guido Peeters and his colleagues (Peeters, 1971, 1989; Lewick, Czapinski, & Peeters, 1992; Peeters & Czapinski, 1990) directly addressed this apparent contradiction, which they describe as a positive-negative asymmetry. These researchers treated support for both positive and negative biases in a sophisticated and fair way. They noted the interesting fact that, because negative events are much rarer than positive events, it is adaptive to assume the positive (the most likely occurrence) while being watchful for the dangerous negative (Rozin & Royzman, 2001). Thus, many examples of positive bias result from the same basic fact about the world, the dominance of positive experiences, as does negativity bias.

This study intersects thematic and episodic framing with gain and loss framing in news stories about health problems to determine its affect on how individuals attribute responsibility for health problems. Previous research has shown audiences attribute significantly more

responsibility to society when problems are framed thematically and significantly more responsibility to individuals when problems are framed episodically (Iyengar, 1991). Studies report people pay more attention to negative news and accord it more weight in their decision making process. This concept is known as the “negativity bias.” Evidence from studies using gain and loss frames suggests losses loom larger in people’s minds when making decisions. This study proposes that using loss language in thematic will cause people to attribute significantly more responsibility for health problems to society and that using loss language in episodic stories will cause people to attribute significantly more attribution of responsibility for these problems to the individual. Based on previous literature, this study tests the following hypotheses:

Hypothesis 1

People who read news stories about health problems framed as thematic loss will attribute a significantly greater amount of responsibility for the problem to society.

Hypothesis 2

People who read news stories about health problems framed as episodic loss will attribute a significantly greater amount of responsibility for the problem to the individual.

Need for Orientation

The news media are not the only source of information or orientation to issues of public concern. Issues can be placed along a continuum ranging from obtrusive (those issues that we experience personally) to unobtrusive (those issues that we know about only through the media) (McCombs, Shaw, & Weaver. 1997). For example, most people do not need the news media to inform them about many aspects of the economy. Personal experience commonly alerts individuals about pricing patterns during certain holidays or about rising fuel prices. These are defined as obtrusive aspects of the economy (McCombs, Shaw, Weaver, 1997). Other economic

issues, however, are not experienced personally. Typically, the news media inform the public about changing interest rates or federal government spending. These are unobtrusive issues, meaning the public learns about them only in the news media and not in their daily lives (McCombs, Shaw, Weaver, 1997). Some issues are both obtrusive and unobtrusive, depending on individual circumstances. Influenza is an excellent example of a health issue that is both. Almost everyone has had influenza, making this issue an obtrusive issue for them. Their understanding of influenza is firsthand. But few people have any experience with avian influenza (bird flu), except through news media coverage, making it an unobtrusive issue for most people.

Theoretically, a person's need for orientation is determined by two concepts, relevance and uncertainty, whose roles occur successively (McCombs, Shaw, & Weaver, 1997). The first defining condition is relevance. Most individuals have no need for orientation for any number of issues because those issues are not seen as personally relevant. For example, a person who is thin with no family history of obesity may have little interest in stories about obesity. In situations where the relevance of the issue to the individual is low, the need for orientation is low.

Among individuals who perceive a topic to be highly relevant, their level of uncertainty also must be considered. If a person already has all the information he or she needs about an issue, uncertainty is minimal. Under conditions of high relevance and low uncertainty, the need for orientation is moderate. When relevance and uncertainty are high, however, need for orientation is high. This was the case during the 2001 anthrax letter attacks. Many individuals considered the issue highly relevant, and few had firsthand experience with anthrax or bioterrorism. Thus, the greater an individual's need for orientation, the more likely he or she will attend to the news media agenda.

In some cases, personal experience with an issue, rather than fulfilling a need for orientation, produces an increased need for more information and the validation that comes from the news media (Noelle-Neumann, 1985). Sensitized to an issue, these individuals may become particularly skilled at studying the news media agenda (McCombs, Shaw, & Weaver, 1997). This may easily be the case where health information is concerned. Experience with a specific health issue does not necessarily lead to low certainty. Most health problems are complicated making it necessary for an individual to search for information and keep abreast of medical advances or changes in treatment. Many Americans report using the news media to learn about important health issues (Kaiser Family Foundation/Harvard School of Public Health, 2002). More than half of the public report that national, local, or cable news is their most significant source of information about health issues. How an individual responds to news coverage about health issues also depends on individual beliefs about susceptibility to the health problem or disease (Kaiser Family Foundation/Harvard School of Public Health, 2002).

Perceived Susceptibility

Perceived susceptibility is a component of the Health Belief Model. The Health Belief Model (HBM) is a value-expectancy theory. The HBM posits that people will take action to prevent, to screen for, or to control ill-health conditions if they regard themselves as susceptible to the condition, if they believe it would have potentially serious consequences, if they believe that a course of action available to them would be beneficial in reducing either their susceptibility to or the severity of the condition, and if they believe that the anticipated barriers to (or costs of) taking the action are outweighed by its benefits.

Perceived susceptibility refers to one's subjective perception of the risk of contracting a health condition. In other words, perceived susceptibility is the extent to which one feels at risk

for actually experiencing the health condition. Measuring perceived susceptibility is important in this study because individual differences can influence perceptions of susceptibility (Witte, Meyer, & Martell, 2001), thus influence the way participants respond to the health stories used in this study. For example, individuals who are highly anxious by nature are likely to perceive susceptibility differently than individuals who have low trait anxiety by nature.

It is important to note that perceived susceptibility inspires actions – any kind of action. The stronger the threat is perceived to be, then the greater the fear aroused and the stronger the motivation to act (Witte, Meyer, & Martell, 2001). Perceived efficacy determines what type of action is taken, whether an individual controls the danger or controls their fear. People tend to evaluate the efficacy of the recommended behavior based on the strength of their perceived susceptibility to establish the ease, viability, and reasonableness of performing the recommended behavior (Witte, Meyer, & Martell, 2001). As long as perceived efficacy is greater than perceived susceptibility, individuals engage in danger control responses and feel competent in performing the recommended behavior. If perceptions of susceptibility begin to surpass perceptions of efficacy, then people start to believe they lack the ability to perform the recommended behavior. At this point, people use fear control processes and concentrate on managing their fear instead of managing the danger (Witte, Meyer, & Martell, 2001). An individual's perceived susceptibility to a health problem influences their beliefs about what behaviors they are capable of performing.

Behavioral Intentions

The concept of behavioral intention is related to response efficacy. Efficacy is always related to one's ability to act upon the recommended behavior. If individuals perceive a recommended response to be effective in preventing, stopping, diminishing, or avoiding a health

threat, then they are said to have high-response efficacy (Witte, Meyer, & Martell, 2001). Similarly, if individuals perceive they are able to perform a recommended response, then they are said to have high self-efficacy. When individuals control the danger, they take actions to protect themselves (Witte, Meyer, & Martell, 2001). Danger control processes include behavioral intentions such as exercising or quitting smoking.

When individuals do not deem the recommended response as effective against the health problem, an individual has low-response efficacy. This may occur because the individual places low relevance on the health threat or because the individual is managing their fear (Witte, Meyer, & Martell, 2001). If someone does not believe they can carry out the recommended behavior, then they are considered to have low self-efficacy. Again, these are individual differences which could influence how people respond to the health news stories in this study.

Research Question 1

What role will need for orientation, perceived risk, and behavioral intentions, play in how respondents attribute responsibility for public health issues, such as cancer and obesity?

Framing and Emotions

Scholars commonly use the word "affect" to describe emotions, moods, and feelings (Batra & Ray, 1986). Categories of affective responses include interest, uniqueness, surprise, disgust, anger, fear, pity, pride, sadness, enjoyment, happiness, fear, and empathy (Batra & Ray, 1986). Negative and positive emotions form two separate dimensions instead of being opposite ends of one continuum (Watson, Clark, McIntyre, & Hamaker, 1992). Some theorize that affect represents a second type of elaboration that is less involving (Batra & Ray, 1986), while others posit that emotions influence informational processing (Gardner, 1985).

Fiske and Taylor (1984) assert that negative emotions have a more complex dimensional structure than positive emotion, and a correlation between the two may not always exist. Studies show people remember negative advertising more than positive advertising, and assign it more weight in decision making (Kellerman, 1984). Considerable evidence exists supporting a "negativity bias" (Ito, Larsen, Smith, & Cacioppo, 1998; Pratto & John, 1991; Suslo, Ohrmann, & Arolt, 2001) in which people allot more weight to negative information than positive information. This tendency is thought to stem from people expecting positive information, making negative information more surprising or threatening, and enhancing information processing (Petty & Wegener, 1998).

Studies also indicate that emotions have some bearing on cognitive processing. Generally negative affective states promote the use of more elaborated, detail-oriented processing (Schwarz, 1990). Individuals in negative affective states are also more likely to concentrate on the situation that elicited the negative emotions and less likely to be distracted (Isen, 1984). Negative emotions can have a stronger impact on learning, judgments, and attitudes than positive emotions (Brosius, 1993). Positive affect has generally been found to decrease systematic processing, whereas negative affect increases analytic processing (Brosius, 1993).

Marcus, Neuman, & MacKuen (2000) link affect to political judgment in their theory of affective intelligence. These researchers theorize that emotions are critical in getting people to pay attention to politics, and that people use emotions, especially negative ones, to deliberate about their political views. Marcus, Neuman, and MacKuen (2000) conclude that "emotions enhance citizen rationality," observing that this is opposite of typical thinking that says emotions blur judgment, causing people to act irrationally rather than leading them to more pensive

decision-making (p. 124). Findings from over 15 years of research show that specific negative emotions lead to arousal, which stimulates cognition resulting in thoughtful judgment.

This current study manipulates the affective dimension of framing in the news stories using gain and loss frames. Literature shows that affect influences information processing. In this study, emotions may significantly impact how participants attribute responsibility for the health problems described in the news stories.

Research Question 2

How will the thematic, episodic, gain, and loss frames affect participants' emotional responses to the news stories about health problems?

Top Health Problems in the United States

A November 2005 and 2004 Gallup poll listed cancer and obesity as the two most urgent health problems facing the United States. Through most of 2003 and 2004, the Kaiser Foundation poll reported that people listed cancer and obesity among the most important health problems facing Americans.¹ In a 2004 survey conducted on behalf of the American Cancer Society, Americans listed cancer, obesity, and heart disease as the biggest health risks facing people in their community (Penn, Schoen, & Berland Associates, Inc.).² For years, cancer has made the list of most important health problems facing Americans; however, obesity is a recent addition to the list. The news media have been covering cancer for decades, but the coverage of obesity has increased only in recent years (Oliver & Lee, 2005). This onslaught of coverage could be because public health experts and many others say the United States is in the midst of an obesity epidemic (Lawrence, 2004).

¹ The Kaiser Poll was conducted in June and February of 2004. The poll was conducted in November, July, and May of 2003. Americans polled listed cancer, obesity, and lack of healthcare coverage as the most important health problems facing Americans. For the purposes of this study only physical conditions and diseases are including.

² For the purposes of this paper, the results of the Kaiser Foundation survey were used for the literature review. This poll was conducted several times throughout 2003 and 2004 with the same results.

Because of their identification as the most important health problems, the newspaper stories used in this study focus on lung cancer and obesity. A specific type of cancer was chosen because a story that lumps various types of cancer together would involve far too many symptoms, treatments and risk factors. Lung cancer was chosen because like obesity it is linked to behavior, as well as factors more difficult for the individual to control. For example, a child who lives with a parent who smokes is exposed to secondhand smoke or a person who works in an environment in which they are exposed to lung cancer causing agents. There are biological reasons for obesity. Both lung cancer and obesity have devastating effects on Americans. Hundreds of thousands of people have lost their lives to lung cancer and obesity-related illnesses, and the economic cost in the U.S. related to both of these health problems continues to rise.

Furthermore, both of these health problems are associated with public policy issues. Numerous cities have enacted smoking bans in restaurants and bars to protect nonsmoking patrons from secondhand smoke. Many work environments are smoke-free as well. Recently, an agreement was reached to remove sodas from schools and the U.S. Food and Drug Administration is urging restaurants to cut portion sizes to control away-from-home-eating (FDA, 2006). In order to understand the substantial impact of lung cancer and obesity, an overview of both is essential.

Lung Cancer

Lung cancer kills more men and women than any other type of cancer. In 2002, lung cancer accounted for more deaths than breast, prostate, and colon cancer combined (U.S. Cancer Statistics, 2002). Aside from non-melanoma skin cancer, lung cancer is the second most common cancer for all men in the United States, and the second most common cancer among white and American Indian /Alaska Native women. It is the third most common cancer among black,

Asian/Pacific Islander and Hispanic women (U.S. Cancer Statistics, 2002). Research has identified several risk factors for lung cancer. A risk factor is anything that increases the risk of getting a disease. Different risk factors change risk by various amounts. The risk factors for lung cancer include: smoking and being around others' smoke (secondhand smoke), exposure to radon gas, and having a family history of lung cancer.

Cigarette smoking causes lung cancer. In fact, smoking tobacco is the major risk factor for lung cancer. In the United States, about 90% of lung cancer deaths in men and almost 80% of lung cancer deaths in women are due to smoking (CDC, 2006). People who smoke are 10 to 20 times more likely to get lung cancer or die from lung cancer than individuals who do not smoke. Individuals who quit smoking have a lower risk of lung cancer than if they continued to smoke, but their risk is higher than people who never smoked. Smoking also causes cancer of the larynx, mouth, throat, bladder, kidney, pancreas, cervix, and stomach.

Smoke from other people's cigarettes causes lung cancer as well. There are more than 4,000 chemicals in secondhand smoke. More than 50 of these chemicals cause cancer in people and animals. An estimated 3,000 lung cancer deaths and more than 35,000 to 40,000 coronary heart disease deaths occur annually among adult nonsmokers in the United States as a result of secondhand smoke (U.S. Department of Health and Human Services, 2004). Approximately 60% of non-smokers in the United States have biological evidence of secondhand smoke exposure (CDC, 2003). Secondhand smoke, also known as environmental tobacco smoke (ETS), is a mixture of the smoke given off by the burning end of tobacco products (sidestream smoke) and the smoke exhaled by the smoker (mainstream smoke) (National Toxicology Program, 2004). People are exposed to secondhand smoke in the home, workplace, and in public venues such as bars, bowling alleys, and restaurants (Pirkle, Flegal, Bernert, Bordy, Etzel, & Maurer, 1996).

Secondhand smoke is associated with an increased risk for lung cancer and coronary heart disease in nonsmoking adults (National Toxicology Program, 2004; Pirkle et al., 1996). There is no known safe level of secondhand smoke exposure, and evidence suggests even short-term exposure may increase a person's risk of experiencing a heart attack (CDC, 2005). Young children are particularly susceptible to secondhand smoke because their lungs are not fully developed. Exposure to secondhand smoke is associated with increased risk for sudden infant death syndrome (SIDS), asthma, bronchitis, and pneumonia in young children (U.S. Department of Health & Human Services, 2001). Each year, secondhand smoke is linked to an estimated 8,000 to 26,000 new asthma cases in children (U.S. Environmental Protection Agency, 1992). Among children 18 years and younger, an estimated 22% are exposed to secondhand smoke in their homes, with estimates ranging from 11% in Utah to 34.2% in Kentucky (CDC, 1997).

An individual's lung cancer diagnosis depends on the type of lung cancer present. The two main types of lung cancer are small cell lung cancer and non-small cell lung cancer. These categories refer to how the lung cancer cells look under a microscope (CDC, 2006). When describing the extent of the disease, people use the term stage. General symptoms of lung cancer include: a continuous cough for an extended period of time, a change in a cough you have had for a long time, being short of breath, coughing up phlegm (sputum) with signs of blood in it; an ache or pain when breathing or coughing, loss of appetite, fatigue, and weight loss.

Lung cancer treatment depends on the type of lung cancer and how far it has progressed. Treatments include surgery, chemotherapy, and radiation. Individuals with lung cancer commonly receive more than one kind of treatment. The long-term prognosis for individuals who have lung cancer depends on the type and stage of the disease. The overall 5-year survival rate is 15%; this number is low because lung cancer is often not detected until it has reached an

advanced stage (American Cancer Society, 2005). Cigarette smoking and exposure to secondhand smoke continue to impose substantial health and financial costs on society. In 1998, smoking attributable health-care expenditures were estimated at \$75.5 billion (CDC, 2004). During 1997 to 2001, these expenditures plus productivity losses (\$92 billion) exceeded \$167 billion per year (CDC, 2004).

Policies establishing smoke-free environments are the most effective method to protecting both workers and patrons from secondhand smoke exposure, and restrictions on where smoking is allowed are associated with decreased cigarette consumption and possibly with increased cessation rates among workers and the general public (CDC, 2005). Many states have passed laws regulating smoking in private-sector worksites, restaurants, and bars (CDC, 2005). From 1999 to 2004, 10 states strengthened their smoking restrictions for private-sector worksites, nine strengthened restrictions for restaurants, and five strengthened restrictions for bars (CDC, 2005). Yet, many states fail to provide full protection in some or all of these settings. Some states with no or minimal state smoking restrictions have strong local smoking restrictions in place in many communities. There are state legislative provisions that do not preempt communities from enacting more stringent local laws that restrict smoking and establish a greater level of public health protection (CDC, 2005).

Research consistently shows that smoking restrictions do not have a negative economic impact on restaurants and bars, and that most of the public support and comply with strong secondhand smoke restrictions (CDC, 2005). As a result of continuing gaps in policy coverage for many private-sector worksites, restaurants, and bars, a substantial portion of the U.S. nonsmoking population remains at risk for exposure to a known human carcinogen in these settings, either as employees or customers (CDC, 2005). While population-based data show

declining secondhand smoke exposure in America over time, secondhand smoke remains a common, preventable public health hazard (CDC, 2005).

Research shows comprehensive tobacco control programs, when faithfully put into practice, can generate dramatic declines in per capita cigarette consumption and in the prevalence of smoking among both adults and youth (Siegel, 2002). The more states spend on comprehensive tobacco control programs, the larger the reductions in smoking, and the longer states invest in such programs, the greater and faster the impact (Farrelly, Pechacek, & Chaloupka, 2003). For example, between 1990 and 2000 cigarette sales dropped more than twice as much in states that invested heavily in comprehensive tobacco control programs (Arizona, California, and Oregon) as in the United States as a whole (Institute of Medicine, 2000). An evaluation of the 17 states involved in the National Cancer Institute's American Stop Smoking Intervention Study (ASSIST) showed statewide tobacco control programs reduced smoking prevalence (National Cancer Institute, 2005). Tax increases and raising the unit price of tobacco products are strongly advocated as successful ways to decrease both initiation and consumption of tobacco by adolescents, as well as increasing adult cessation (Zaza, Briss, & Harris, 2005). Reducing patient out-of-pocket costs for effective cessation treatments is suggested to increase the number of individuals who quit (Zaza, Briss, & Harris, 2005).

Obesity

Obesity among adults has increased significantly during the past 20 years. The latest data from the National Center for Health Statistics show that 30 percent of U.S. adults 20 years and older, more than 60 million people, are obese and 65% of all Americans are overweight (CDC, 2006; FDA 2006). The number of young people who are overweight has more

than tripled since 1980 (CDC, 2006). Among children and teens ages 6 - 19 year, 16% (over 9 million young people) are considered overweight (CDC, 2006).

Overweight refers to increased body weight in relation to height, when compared to some standard of acceptable or desirable weight (Stunkard & Wadden, 1993; National Research Council, 1989). Overweight may or may not be due to increases in body fat. It may also be due to an increase in lean muscle. For example, professional athletes may be very lean and muscular, with very little body fat, yet they may weigh more than others of the same height. While they may qualify as "overweight" due to their large muscle mass, they are not necessarily "over fat," regardless of Body Mass Index (BMI).

BMI is a common measure expressing the relationship (or ratio) of weight-to-height. It is a mathematical formula in which a person's body weight in kilograms is divided by the square of his or her height in meters (i.e., $wt/(ht)^2$). The BMI is more highly correlated with body fat than any other indicator of height and weight (NRC, 1989).

Obesity is defined as an excessively high amount of body fat or adipose tissue in relation to lean body mass (Stunkard & Wadden, 1993; NRC, 1989). The amount of body fat (or adiposity) includes concern for both the distribution of fat throughout the body and the size of the adipose tissue deposits. Body fat distribution can be estimated by skinfold measures, waist-to-hip circumference ratios, or techniques such as ultrasound, computed tomography, or magnetic resonance imaging. Individuals with a BMI of 25 to 29.9 are considered overweight, while individuals with a BMI of 30 or more are considered obese (NIH, 1998).

These increasing rates of overweight and obesity raise concern because of their implications for Americans' health. While premature death is one consequence of obesity, the condition is more frequently linked to disease than mortality and requires long-term health

management (Ulrich, 2005). Being overweight or obese increases the risk of many diseases and health conditions including: hypertension, high total cholesterol or high levels of triglycerides, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and respiratory problems, and some cancers (CDC, 2006; FDA, 2006). Overall, there are a variety of factors that play a role in obesity making it a complex issue for public health experts to address. Obesity may result from an energy imbalance that involves eating too many calories and not getting enough physical activity. Body weight is a result of genes, metabolism, behavior, environment, culture, and socioeconomic status. The U.S. Surgeon General (2001) reports behavior and environment play a large role in causing people to be overweight and obese.

The associated health problems with overweight and obesity have vital economic impact on the U.S. health care system (USDHHS, 2001). Medical costs connected with overweight and obesity may involve direct and indirect costs (Wolf & Colditz, 1998). Direct medical costs may include preventive, diagnostic, and treatment services related to obesity. Indirect costs relate to morbidity and mortality costs (CDC, 2006). Complications such as diabetes, arthritis, heart disease, stroke, certain cancers, and depression increase healthcare costs for obesity-related problems by 36 percent and medication costs by 77 percent (Ulrich, 2005). Total healthcare costs for obesity-related problems were tabulated at \$75 billion in 2003 (Ulrich, 2005). These costs impact U.S. taxpayers since one-half of these costs are financed by Medicare and Medicaid. The expenditures also lead to higher insurance premiums. In addition, as a result of compromised health, obese people suffer indirect costs such as lost work time and wages, lower productivity, and early retirement totaling \$50 billion a year (Ulrich, 2005).

Private spending for obesity-related conditions, such as heart disease and diabetes, was 10 times higher in 2002 than in 1987, according to a 2005 study conducted by the Department of

Health Policy and Management at Emory University (Kaiser, 2005). The study found employers and privately insured families spent \$36.5 billion on obesity-related conditions in 2002, up from \$3.6 billion in 1987. Nearly 25% of extremely obese patients were treated for six or more conditions in 2002, compared to 14% in 1987. The difference in annual healthcare spending between obese adults with private insurance and normal-weight adults with private insurance increased from \$272 per person in 1987 to \$1,244 per person in 2002 (Kaiser, 2005).

An examination of economics is also useful for understanding to what extent obesity is a personal issue and to what extent it involves society. Fueling the increase in obesity is the average cost of food, which has decreased 15 percent between 1978 and 2000 (Ulrich, 2005). But all foods are not priced equally. Research shows foods high in oil, margarine, and sugars are inexpensive and healthier foods such as fresh fruits and vegetables and lean meats are more expensive (Ulrich, 2005). Poorer neighborhoods have higher rates of obesity, and more deaths from diabetes and heart disease, than wealthier neighborhoods (Here's Life Inner City, 2006). Many times people of marginal socioeconomic status are forced to choose between money and health. Maintaining a healthy weight requires a nutritional diet and plenty of physical activity. Two major circumstances impact this situation in poorer communities: fewer safe places to exercise, such as parks, gyms, recreational facilities, and reduced access to healthier foods including fruits, vegetables, and lean meats (HLIC, 2006). People are more likely to shop near their homes, especially in less affluent neighborhoods where fewer individuals own cars. It is logical to deduce the availability, price, and quality of neighborhood food would have a strong impact on a healthy diet.

A 2006 University of Michigan study found predominantly white and wealthy neighborhoods have far more healthy food options than poor minority areas. Large supermarkets,

with a payroll of more than 50 employees are more prevalent in wealthier areas. This is significant because larger supermarkets tend to have a wide selection of nutritious foods at lower prices (University of Michigan School of Public Health, 2006). The study was intended to understand what features of the environment shape behavior instead of focusing on human behavior. The study also reported natural food stores, fruit and vegetable markets, bakeries and specialty food stores are more common in predominantly white areas. Furthermore, 19% of stores in predominantly African American areas are 2,500 square feet or more, while 42% of stores in mostly white areas are 2,500 square feet or more. Liquor stores are more common in the poorest areas as opposed to the wealthiest neighborhoods. Another example of this disparity is milk availability (HLIC, 2006). Many local markets do not offer residents low-fat options, contributing to weight gain. If fruit, vegetables, low-fat milk, and other healthy options are not accessible, residents will buy what they can get and what they can afford, often high fat, high sodium convenience foods.

Lifestyle changes have contributed to the obesity epidemic as well. Sedentary recreation has increased over the last 20 years. In 1950, 2 percent of households in the United States owned television while 98% own them now (Ulrich, 2005). Far greater options in television programming and the advent of videos and DVDs have also encouraged people to stay at home and watch TV or movies. To offset the societal changes such as lower food prices and the increase in sedentary activities contributing to the rise of obesity in the United States, some have called for policy interventions to alter the relative costs and benefits of certain foods or activities (Ulrich, 2005).

Public opinion about obesity has still not resolved itself about obesity and most obesity policies do not enjoy wide-ranging support (Oliver & Lee, 2005). Proposals for snack taxes,

enhancing the civil protections offered to the obese, or increasing public spaces for exercise are still not endorsed by a majority of Americans, even though the public is not opposed to government intervention for other public health concerns including smoking restrictions and helmet laws (Oliver & Lee, 2005). Others argue enacting policies is more than justifiable in order to protect consumers who may not be able to act in their own self-interest, such as children. An abundance of precedents exists for treating children differently than adults on the basis of their ability to make responsible decisions. Cigarette and alcohol sales to minors are banned. Those under age 16 may not drive, while those under 18 may not vote.

In January 2000, the Department of Health and Human Services launched Healthy People 2010, a comprehensive, nationwide health promotion and disease prevention agenda. Healthy People 2010 contains 467 objectives designed to serve as a road map for improving the health of all people in the United States during the first decade of the 21st century. Focus area 19-9 of the Healthy People 2010 objectives seeks to reverse obesity rates and increase the proportion of the population aged two years and older who consume no more than 30% of calories from total fat. The target percentage for this goal is 75% of the population. Unfortunately, there is currently no more than 33% of the population that meets these criteria for fat consumption.

In May 2006, the William J. Clinton Foundation, the American Heart Association, and the nation's largest beverage companies agreed to remove soft drinks from schools. The accord was reached between former President Clinton's foundation, the AHA's Alliance for Healthier Generation, and Cadbury Schweppes, Coca-Cola, Pepsi Co and the American Beverage Association (Obesity Policy Report, 2006). Clinton called it a "bold step forward," and praised the beverage companies for their work (Obesity Policy Report, 2006, p. 1). "This is a truly

significant thing for the industry to do. I hope we can reach other similar agreements as part of our comprehensive approach," (Obesity Policy Report, 2006, p. 1).

The U.S. Food and Drug Administration (FDA) is even taking steps to successfully combat the nation's obesity problems by helping consumers manage calorie intake from foods prepared and purchased away-from-home (FDA, 2006). The impact of away-from-home foods is significant. Americans spend approximately 46 percent of their food budget on food prepared away from home and take in 32 percent of their calories from such foods (FDA, 2006). In light of these facts, the FDA contracted with the Keystone Center, a non-profit organization specializing in bringing together diverse participants to develop consensus on pressing public policy issues, to convene a forum on away-from-home foods. The forum included experts in industry, government, civic sector organizations, and academia. Key recommendations included: 1) more research to understand and influence consumer behavior; 2) increasing the availability of lower-calorie products, menu items, and meals; and 3) providing consumers with nutrition information (FDA, 2006). The forum was a result of the FDA's work with the Department of Health and Human Services to reach the goal of reducing overweight/obesity, poor nutrition, and physical activity. In 2004, the FDA's Obesity Working Group (OWG) developed an action plan to address the overweight/obesity problem within the scope of FDA's regulatory authorities (FDA, 2006). The OWG recommendations centered on the scientific fact that weight control is primarily a function of caloric balance and therefore calories count when combating overweight/obesity. The group recommended the FDA become a facilitator to provide a forum for stakeholders to seek consensus-based solutions to specific aspects of the obesity epidemic in the U.S., with a particular focus on foods consumed away-from-home (FDA, 2004).

It is no surprise that the effort to control the food portions Americans receive when eating away from home attracted national media and made headlines around the country. Over the past few years, increasing news media attention has focused on the obesity problem in the United States with films such as *Supersize Me* and the recent lawsuits against fast food companies. Although obesity has received more media attention, Americans seem to be out of touch with reality when it comes to the seriousness of the problem. Recent public opinion data indicates that many Americans have unrealistic perceptions about their weight, health, and nutrition. Panagopoulos (2006) found that while Americans place importance on diet and eating habits, most still eat what they want. Americans increasingly believe that obesity is a serious problem, but an apparent disconnect exists between respondents' awareness of obesity as a problem and their own personal weight loss, and eating habits (Panagopoulos, 2006). In surveys between 1987 and 1991, the majority of respondents considered their weight to be "about right" (Panagopoulos, 2006). When analysts questioned respondents about their heights and weights in surveys between 1986 and 1992, the majority of respondents fell into the government classification of obesity (Panagopoulos, 2006).

The lung cancer deaths of ABC news anchor Peter Jennings and advocate Dana Reeve, wife of actor Christopher Reeve, has led to an increase in news media attention to the disease. As mentioned previously, the amount of news media coverage of health issues has increased substantially over the past 25 years. Previous news media coverage of lung cancer and obesity may influence how individuals respond to the stories used in this study. Therefore, a brief review of the news media coverage of these two health problems follows.

News Media Coverage of Health Issues

Health reporting is a key growth area for the news media, probably because it is in demand by the public and it is lucrative for media companies (Schwitzer et al., 2005). In the 1980s, news about health and/or science increased substantially (Seale, 2002), particularly with the growth of special science sections in the nation's newspapers (Bader, 1990). Through the years, the number of health news stories on television has increased as well (Signorielli, 1993). Major networks began employing physicians to cover health topics, and local stations assigned reporters to specialize in health coverage. Many stations also created special health segments sponsored by local hospitals and businesses.

Scientists also changed the way they work with the news media with many physicians employing large public relations firms to promote their work (Russell, 1999). Today, many medical journals provide advance press release packages with release dates and times carefully chosen to increase the chance of being covered during in the evening news (Seale, 2002). Institutions, including universities and corporations with new products to sell vie for media attention. The problem remains that the news media, print and broadcast, cannot wait for scientists to complete all of the research essential to reach consensus (Seale, 2002). Instead, journalists offer the best information available to the public at a given point in time. Critics assert the news media do not provide the public with the most effective health information (Seale, 2002) "Many times journalists emphasize the dramatic over the mundane, new risks over old ones, and conflict and drama" (Russell, 1999, p. 169).

While the news media cover numerous health issues, this study focuses on the two health problems the public has deemed the most important in the country – cancer and obesity. Both lung cancer and obesity have received a significant amount of news coverage. The news

coverage for both health problems ranges from many personal stories of success and loss to few news stories covering broader policy issues.

News Media Coverage of Lung Cancer

For more than 30 years, media coverage of health risks, specifically cancer risks, has increasingly followed a "wheel-of-fortune approach" (Russell, 1999, p.167). "Be it hourly, daily, weekly, or monthly, journalists following the latest study spin out a new health risk that often contradicts a previous study and helps contribute to a general feeling of confusion and concern in the public" (Russell, 1999, p.167). The awful news about supposed cancer risks includes a multitude of possible culprits: pesticide and apples, estrogen replacement therapy and possible breast cancer, second-hand smoke, asbestos in schools, and the artificial sweetener saccharin and cancer in rats (Russell, 1999).

The news media's current coverage of cancer is influenced still by the 1971 launching of America's "war on cancer." The message from the president down: spend enough money on crash research programs and cancer will be defeated (Russell, 1999). The cancer war, however, persists and while some battles have been won, the casualties remain staggeringly high (Russell, 1999). In terms of language, the continued use of the word "cancer" in a singular manner provides a deceptive notion of one disease as opposed to emphasizing the complexity of more than 100 different diseases with a multitude of varying risk factors (Russell, 1999).

In the 1990s, cancer received interminable media attention, specifically breast and prostate cancer; new genetic studies provided insight into which cancers were hereditary and generated potential ways to detect cancer genes (Russell, 1999). A 2006 study of the circulating magazines in the U.S. and Canada found the following about news media's coverage of cancer:

- 1) cancer and fear are frequently conflated; cancer is said to grow outside of awareness; cancer is

portrayed as inevitable; early detection is associated with diagnosis; and scary statistics are emphasized; 2) contradictions and confusion exist within and between articles; and numerous metaphors of war and battle are used frequently (Clarke & Everest, 2006).

Lung cancer, the leading cancer killer of both men and women, is seriously under-reported when compared to other major cancers according to a 2001 study (National Cancer Institute, 2001). Of 600 randomly selected cancer stories that appeared between August 1999 and July 2000, 61% reported on breast cancer, 23% reported on prostate cancer, 17% on colorectal cancer, and 9% focused on lung cancer outside of tobacco and smoking issues (USA Today, 2001, February). The study found lung cancer coverage was overshadowed by tobacco-related issues. Of the 105 articles mentioning lung cancer, nearly half of these did so in the context of tobacco litigation and smoking issues. Advances in lung cancer research are rarely brought to the attention of public through news coverage. This is vastly different from coverage about breast cancer, prostate cancer, and colorectal cancer which focuses mostly on treatment, research, and detection. Lung cancer even fails to generate significant news coverage during campaigns designed to increase lung cancer awareness.

The 2001 study reported a significant lack of personal stories about lung cancer – just 10 (USA Today, 2001, February). On the other hand, there were 73 articles about breast cancer patients, 15 concerning prostate cancer patients, and 11 on colorectal cancer. While the recent lung cancer deaths of celebrities Peter Jennings and Dana Reeve led to an increase in media coverage of the disease, it is unclear if their deaths will generate long-term news media attention to lung cancer.

Breast, prostate, and colorectal cancers have generated a significant amount of news attention through a number of celebrities who were affected, either directly or indirectly, by the

disease. Television host Katie Couric raised awareness of colorectal cancer on her program “The Today Show” after her husband died of the disease, while former New York Mayor Rudolph Giuliani’s prostate cancer diagnosis drove coverage to peak levels. Only one celebrity has repeatedly spoken out about lung cancer – multiple Tour de France champion cyclist and testicular cancer survivor Lance Armstrong. Some have suggested that certain cancers are more fashionable than lung cancer (Lancet, 2000). With smoking itself becoming increasingly socially unacceptable, the cancer it causes may become increasingly marginalized. The funding spent on lung cancer research continues to lag behind the amount spent on other types of cancer research (National Cancer Research Network, 2004). For many individuals who have lung cancer and are or were smokers, there may be little sympathy, if their disease is seen as self-inflicted. Perhaps other cancers with established screening procedures and higher survival rates generate more news media coverage. Lung cancer may receive more news media coverage if more cases of lung cancer from secondhand smoke are diagnosed and more deaths of nonsmokers such as Dana Reeve occur. Victims of this disease would be seen as innocent and lung cancer would be considered a greater public health risk.

News Media Coverage of Obesity

Little skepticism exists among public health experts that obesity has become a grave epidemic in the United States (Lawrence, 2004). News coverage of obesity has grown more prominently universal in that claims about the food and activity environment are more widespread today (Lawrence, 2004). These claims have become standard themes of news stories aided by books such as Nestle's *Food Politics* (2002), Brownell and Horgen's *Food Fight* (2003), and also Eric Schlosser's *Fast Food Nation* (2002). Public discourse has increasingly focused on social environment along with personal behavior, in an effort to understand the obesity epidemic.

More news media coverage than ever describes America's unhealthy environment as a contributor to obesity, and there is less acceptance of the idea that the risk has been incurred involuntarily by overweight adults (Lawrence, 2004). Furthermore, the media appears to have great difficulty alleviating the obese of some responsibility. For example, the McDonald's lawsuits, these cases were rarely covered without a corresponding counter frame of personal responsibility (Lawrence, 2004). One *New York Times* column observed of the recent McDonald's lawsuit,

"What's next, a lawsuit against Anheuser-Busch for failing to warn that drinking a a six-pack of Budweiser a day is likely to lead to a beer gut?--Where were the claimant's parents? Didn't they notice as she reached, oh, 222 pounds that something might be amiss? (Haberman, 2002; B1)

The news has increasingly reported that overweight people are now in the majority (Epstein, 2003) and the reality of the childhood obesity epidemic has received more news coverage (Lawrence, 2004). Unlike smoking, however, obesity has no secondhand effects that immediately affect the health of others, and so the critical reframing strategy that made tobacco a hazard even to nonsmokers has not been available to health experts thus, the news media (Lawrence, 2004). The closest corollary may be the increases in national health care costs linked with treating obesity and related health problems, an issue that recently obtained front-page notice (Lawrence, 2004). In fact, some advocates have been pressing the argument that the food industry is accountable not only for the obesity epidemic but also for national health care costs that are escalating out of control (Seale, 2002). As a incendiary New York Times op-ed headlined "Don't Blame the Eater" argued,

As with the tobacco industry, it may only a matter of time before state governments begin to see a direct line between the \$1 billion that McDonald's and Burger King spend each year on advertising and their own swelling health care costs (Zinczenkok 2002, A19).

At this point, it is uncertain if the fight for greater government action on obesity will be controlled by the food industry and its influential allies in government or become a protracted and far-reaching battle (Lawrence, 2004). As more scientific findings about the causes of obesity filter down to the public and as news media attention continues to increase on obesity-related illnesses, public attribution of responsibility will likely shift from individual to societal. In fact, more recent polls indicate increasing public concern about obesity (Oliver & Lee, 2005). What is clear; however, is that the media and the public are paying increased attention to the issue of obesity in America.

Rationale for Study

A growing number of public health experts and communication scholars believe news media coverage of health problems in a broader context would help the public understand that many health problems are caused by societal issues and are not simply the individual's responsibility. The idea – if audience members understand this concept, they are much more likely to advocate change in upstream factors resulting in a healthier public. While an abundance of literature discussing how journalists should change the way in which they cover public health issues exists, few studies examining how audience members respond to such coverage have been conducted. This research addresses this issue by examining the publicly identified top two health problems in the United States using framing theory.

This research investigates whether different news frame combinations intensify or diminish framing effects. This concept has received little scholarly consideration. In this research, the cognitive dimension and affective dimension of framing defined as thematic/episodic and gain/loss respectively are manipulated to determine if changing the way newspaper stories report obesity and lung cancer will alter the readers' perception of these health

problems. Perception in this case is measured through societal and individual attribution. This study examines how intersecting thematic/episodic and gain/loss news frames influences newspaper readers' attribution of societal and individual responsibility.

CHAPTER 3 - METHODOLOGY

This experimental study was a 2 (Cognitive attributes: thematic/episodic) X 2 (Affective attributes: gain/loss) factorial design. Both factors, the cognitive dimension of frames and the affective dimension of frames, were between groups. A repetition factor as the health issue - lung cancer and obesity - all of the participants received stories about both issues. Each participant read two newspaper stories. Both stories were thematic or episodic framed and both were gain or loss framed. Participants completed a questionnaire after they read each newspaper story. The news stories were incorporated into a mock front page of a health and science section of a newspaper titled *The Daily Record* in order to simulate the way readers actually read news stories in a natural environment. The stories appeared to have been photocopied directly from the actual newspaper. The headlines for each story were the same size and length.

To control for order effects, stories were counterbalanced making it necessary to create a two layout designs for each story for a total of 16 versions. In one format, the story ran across the entire six columns of the newspaper above the fold. In the other format, the story ran across five columns at the top of the front page above the fold. The sixth column was blacked out so as not to distract the reader.

Stimulus Materials

The researcher wrote four newspaper stories about lung cancer and four newspaper stories about obesity. The newspaper stories were created from existing newspaper articles available on the Lexis-Nexis database. Each newspaper story was the same length with approximately the same number of words. The stories also were equal in the number of sources mentioned, the number of quotes, and the number of gain/loss and neutral statements. Participants were randomly assigned to one of four treatment conditions.

The first treatment condition incorporated episodic gain information into two stories: one about lung cancer and the other about obesity. The episodic gain lung cancer story is about a man's successful battle with lung cancer who has become an advocate for the disease. Examples of statements from the story include: "I look at my wife and kids and know how fortunate I am to be here with them" and "As he sees it, he was granted extra time to make a difference for others with lung cancer."

The episodic gain obesity story is about a male police officer's successful weight loss and how being healthy has changed his life. He works to help others lose weight as well. Two examples of statements from that story include: "His blood pressure and cholesterol are at manageable levels" and "Now, I'm going to dance at my granddaughter's wedding so, I will keep this weight off."

The second treatment condition incorporated loss information into the same episodic stories used in the gain condition. The lung cancer patient is losing his battle with the disease and the police officer is struggling to lose weight. All of the gain statements incorporated into the first treatment condition stories were changed to loss statements. Statements from the episodic loss lung cancer story were altered to read: "I see my wife and children and know I won't be with them much longer" and "As he sees it, what little time he has left he will use to make a difference for others with lung cancer." Statements from the episodic loss obesity story were changed to read: "His blood pressure and cholesterol are still dangerously high, and he has developed type 2 diabetes" and "I've got to keep trying to get this weight off."

The third treatment condition incorporated thematic gain information into two stories: one about secondhand smoke's role in lung cancer and the other about obesity. The thematic gain secondhand smoke story discusses a study that found lung functioning improved after the state's

smoking ban took effect. The story includes facts about secondhand smoke causing lung cancer and other health problems. It also provides information about smoking bans. The language in the story is positive with words such as prevents, saves, etc. Statements from this story include: “A recent Minnesota study shows bartenders’ lung functioning greatly improved just weeks after that state’s smoking ban took effect” and “The good news is more employees are demanding to work in a smoke-free environment.”

The thematic gain obesity story discusses a study that reports wealthier areas have more recreational facilities and fewer overweight/obese teens living in those neighborhoods. The story discusses facts about obesity-related illnesses and obesity rates. It also informs readers that more affluent areas have healthier food options and fewer fast food restaurants. Statements from this story include: “Teens in affluent areas have more places to exercise and are less likely to be overweight than teens in poorer minority neighborhoods” and “Other studies have found stores in higher-income areas offer more options for healthful food.”

The fourth treatment condition integrated thematic loss information into stories. The study discussed in the thematic loss secondhand smoke story was slightly different than the story used in treatment condition 3. This was changed because exposure to secondhand smoke cannot be portrayed in a positive, gainful way. In this story, a study about the harmful effects of minor exposure to secondhand smoke is discussed. That is the only difference between the two stories. The same facts about secondhand smoke and health risks are included except the language in the story is negative including words like kills, unhealthy, etc. Statements from this story include: “A recent Minnesota study found high levels of cancer agents in the urine of nonsmokers who voluntarily spent four hours in a smoky casino” and “The bad news is many employees are still not concerned about working in a smoke-filled environment.”

The thematic loss obesity story discusses the same study used in the thematic gain story except it is presented in a negative context – poorer areas lack recreational facilities and have less access to healthier foods. The same information about obesity rates and obesity-related illnesses are included except it is written in terms of loss using language such as “significantly less likely to have a place to exercise” and “getting stuck with fast food.” Statements used in this story include: “Teens in poorer minority neighborhoods have fewer places to exercise and are more likely to be overweight than teens in affluent areas” and “Other studies have found stores in lower-income areas offer fewer options for healthful foods.”

Participants

Two-hundred-and twenty-nine adults from the South, West, and Southwest were recruited to participate in this study. Three physicians and the researcher administered the data collection sessions. The physicians received training on the proper procedures for data collection and how to work with human participants. The data were collected over a two-week period with sessions held at various times throughout the day. Data collection sites included several schools, a bank, two hospitals, a dental office, two cable companies, a utility company, a mayor's office, several church groups, an OB/GYN office, a Rotary club, and two fire departments. The groups ranged in size from ten participants to 35 participants. Doughnuts and coffee were provided for the morning sessions and pizza and soft drinks were provided for the lunch sessions. Two schools received cash donations for school supplies. Other groups including the firefighters and EMTs requested candy and cookies.

Procedure

First, participants answered questions gauging their pre-existing attitudes about health issues and media use. Next, participants read a newspaper health story and filled out the

questionnaire concerning that health issue. Upon completion, participants read the second news and filled out the questionnaire concerning that health issue. After reading the two stories and completing the questionnaires, participants provided demographic information. Finally, participants were debriefed and thanked. The entire procedure took about 15 to 20 minutes. All participants signed informed consent forms before participating in the study.

Manipulation Checks

A pilot study was conducted using 31 undergraduate students enrolled in a media management class. The purpose of the pilot test was to determine if the stories were accurate representations of thematic and episodic framing, as well as, gain and loss framing. The test also gauged if respondents attributed greater responsibility to society after reading thematic news stories and greater responsibility to the individual after reading episodic stories. Items measured whether participants had stronger positive feelings after reading the gain stories and stronger negative feelings after reading the loss stories. For example, “How happy did this story make you feel?” and “How angry did this story make you feel?” The means were in the predicted directions with thematic stories showing higher means on social responsibility, mean of 6.15, and episodic stories showing higher means on individual responsibility, mean of 5.73; similarly, gain stories scored higher on positive emotion, mean of 5.14, and loss stories scored higher on negative emotion, mean of 6.47. Lower power due to the small sample size prevented finding statistical significance.

When answering the open-ended questions, "How would you describe this article to a friend?" participants in the episodic gain and episodic loss groups used more episodic statements than thematic statements to describe the health stories. Participants in the thematic gain and

thematic loss groups used more thematic statements than episodic statements to describe the health stories.

A second manipulation check was conducted during the actual experiment. After each article, the 229 respondents were asked to describe the article to a friend (see Appendix A). The answers were content analyzed to determine if participants recognized whether the news stories were framed thematically or episodically. The unit of analysis was the statement. Only message relevant statements were coded. Two coding categories were created: thematic statements and episodic statements (see Appendix B). Each answer to each open-ended question was coded for thematic and episodic statements. Statements were placed in the thematic category if the respondents mentioned the following from each story: the study, its findings, policy issues related to the health issue, and broader social issues related to the health issue (i.e. lack of health food options in less affluent neighborhoods). Statements were coded as episodic if the participants mentioned the following from each story: individual described in the story and/or the individual's experience with the health problem (i.e. personal history, diagnosis, prognosis, success, or failure). Two independent coders were trained and coded 10% of the answers. Intercoder reliability was computed with Holsti's coefficient of reliability. All of the reliabilities were .80 and above. Chi Square analysis showed individuals who read the thematically framed stories identified significantly more thematic than episodic statements within the stories ($X^2 = 44.56$, $df = 3$, $p < .05$). The respondents who read the episodically framed stories identified significantly more episodic than thematic statements ($X^2 = 15.78$, $df = 3$, $p < .05$).

Need for Orientation Index

Before the respondents read the news stories, they answered questions gauging their pre-existing attitudes about health issues and media use as part of need for orientation, which was

used as a covariate. The index included six questions using a 7-point Likert scale (Cronbach's $\alpha = .86$). The need for orientation index asked participants to respond to four questions about specific health news stories and their significance. The health issues included cancer, lung cancer, obesity, and general health issues (See Appendix A). The index also included two media use questions "I use the news media to get information about important issues" and "I use the news media to get information about important health issues."

Dependent Variables and Measures

The remainder of the questionnaire consisted of 7-point Likert scales. Items for the societal attribution of responsibility index and the individual attribution of responsibility were selected based on previous literature and because of the strong likelihood they would create indices with acceptable alpha levels. To make sure this was the case, a factor analysis using varimax rotation was conducted to create the dependent variable indices, societal attribution and individual attribution (see Table 1).

To gauge attribution of responsibility, participants were asked to respond to ten statements for two subjects, lung cancer and obesity, based on Iyengar (1991) and Wanta (1997) (see Appendix A). Five of the statements measured attribution of societal responsibility while the remaining five measured individual responsibility. A factor analysis of all 20 statements resulted in two factors: societal responsibility and individual responsibility. Three variables: Failure of society to provide good schools, prejudice and discrimination, and low wages extracted a single factor for lung cancer and obesity (see Table 1). These three variables were used to create the societal responsibility index (Cronbach's $\alpha = .82$).

The statements "hard work leads to success," "through hard work people can quit smoking," "through hard work people can keep from being obese," "people can avoid

secondhand smoke,” and “people can have access to healthy foods” extracted a single factor titled individual responsibility (see Table 1). These items created the individual responsibility index (Cronbach's $\alpha = .69$). The societal responsibility and individual responsibility indices were used as dependent variables.

Table 1. Factor Loadings of Societal and Individual Responsibility

	Societal Attribution	Individual Attribution
Prejudice (LC)	.814	
Education (LC)	.772	
Prejudice (O)	.744	
Education (O)	.679	
Low Wages (LC)	.678	
Low Wages (O)	.514	
	$\text{Alpha} = .82$	
Hard Work (LC)		.791
Hard Work (O)		.734
Quit Smoking		.697
Secondhand Smoke		.496
Not Be Obese		.461
Healthy Food		.449
		$\text{Alpha} = .69$

(LC) = Lung Cancer
(O) = Obesity

Sixteen questions for both lung cancer and obesity designed to measure participants' emotional response to the stories were used to create two indices: one for positive emotions and one for negative emotions congruent with the two dimensions of theories of emotion. The positive emotion index included four statements about happiness, cheerfulness, motivation, and energy was created (Cronbach's $\alpha = .89$). The negative emotion index included 10 questions about both health conditions and asked participants if the story they read made them feel surprised, startled, irritated, angry, sad, depressed, fearful, afraid, guilty, and ashamed.

Four items were used to measure the respondent's perceived susceptibility to obesity and lung cancer (Cronbach's $\alpha = .86$) (Witte, 1991). The items in the index assessed perceived risk for obesity and lung cancer, likelihood and possibility of becoming obese or developing lung cancer and perceived threat of obesity and lung cancer (See Appendix A). To determine respondents' behavioral intentions, participants were asked to respond to eight items (Witte, 1991). The behavioral intentions index (Cronbach's $\alpha = .86$) included four statements concerning intentions to not smoke and avoiding secondhand smoke for a period of one month and a period of 6 months (see Appendix A). The index also included four statements about obesity. The items measured intentions to eat healthier and exercise for a period of one month and a period of six months (see Appendix A).

CHAPTER 4 - RESULTS

Descriptives

A total of 229 adults (133 females and 96 males) participated in this experiment. The episodic gain group had 53 respondents, the episodic loss group had 59, the thematic gain group had 60, and the thematic loss group had 55. The mean age of respondents was 42 years, ranging from 20 to 75 years. Sixty-nine percent of the respondents were white, 24% were African-American, 3% were Hispanic, 2% were Asian, and 2% selected other as their race. Seventeen participants had some high school or a high school diploma, 33% had some college or vocational school, 22% had a 4 year degree, 10% had completed some graduate work, and 18% had an advanced degree. One hundred and forty-nine of the participants were married while fifty-four were single, 20 divorced, and three were separated. The majority of respondents reported an income range of \$30,100 to \$40,000 per year. Table 2 provides an overview of the different professions held by participants in the study.

Table 2. Professions of Participants

Professions	Frequency	Professions	Frequency	Professions	Frequency
Accountant	5	Electrician	6	Painter	2
Administrator	5	EMT	12	Parents	16
Banker	9	Engineer	7	Phlebotomist	1
Bus. Owner	3	Fire Driver	3	Public Rel.	2
Clerical	7	Firefighter	17	Professor	3
Coach	1	Grass Cutter	2	Psychologist	3
Computer Tech	7	Insurance	7	RN	7
Cafeteria Wkr	3	Librarian	6	Sales	4
Cosmetologist	2	Lineman	7	Social Wkr.	4
Counselor	2	LPN	7	Student	5
Customer Serv.	7	Marketing	6	Teacher Aid	3
Dental Asst.	3	Medical Asst	3	Teacher	19
Dental Hygst.	3	Medical Tech	2	Water Dept.	4
Dentist	1	Nurse Pract.	1	Welder	3
Doctor	4	Operations	4		

Hypothesis 1

People who read news stories about health problems framed as thematic loss will attribute a significantly greater amount of responsibility for the problem to society.

For the first analysis, the dependent variable, societal attribution was entered into an ANCOVA with the independent variables, thematic/episodic framing and gain/loss framing along with the three covariates need for orientation, perceived susceptibility, and behavioral intentions. This hypothesis was supported (see Table 3). There was a highly significant interaction between thematic framing and loss framing on societal attribution of responsibility ($F = .256$, $df = 1, 226$, $p = .008$, $\eta^2 = .031$, observed power = .758) (see Figure 1 and Table 4). When health stories are written using thematic loss framing, people attribute significantly more responsibility to society for the health problem than people who read the other stories.

Table 3. Means of Cognitive Frames Interacting with Affective Frames on Societal Responsibility

Thematic/Episodic	Gain/Loss	Mean	Std. Deviation	N
Episodic	Gain	16.24	7.71	54
	Loss	14.22	7.46	59
	Total	15.18	7.61	113
Thematic	Gain	15.91	7.01	60
	Loss	18.66	8.07	54
	Total	17.21	7.62	114

Hypothesis 2

People who read news stories about health problems framed as episodic loss will attribute a significantly greater amount of responsibility for the problem to the individual.

For the second analysis, the dependent variable, individual responsibility was entered into an ANCOVA with the independent variables, thematic/episodic framing and gain/loss framing

along with the covariates need for orientation, perceived susceptibility, and behavioral intentions. This hypothesis was not supported (see Table 5).

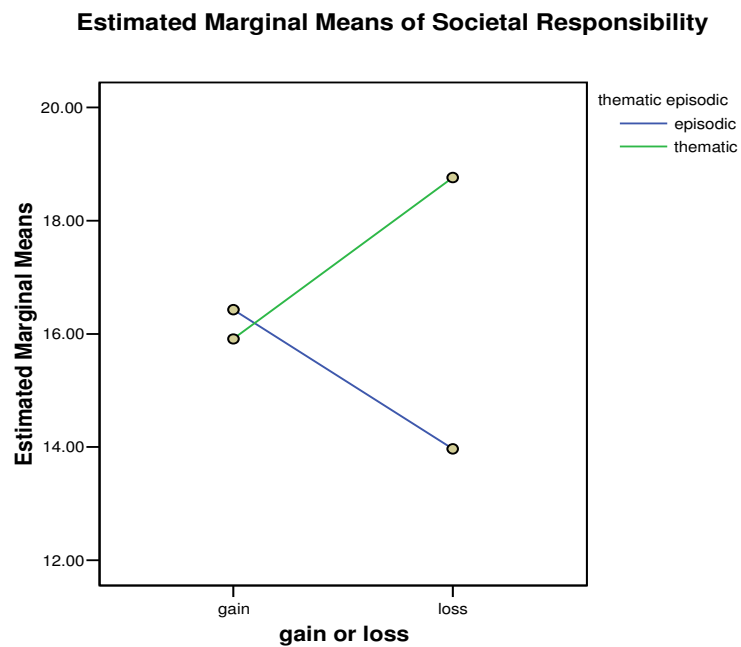


Figure 1. Interaction between Thematic and Loss Frames on Societal Responsibility.

Table 4. ANCOVA Cognitive Frames Interacting with Affective Frames on Societal Responsibility

Independent Variables	<i>Df</i>	<i>Ms</i>	<i>F</i>	<i>P</i>
Intentions	1	7.20	.132	.717
Need for Orientation	1	199.26	3.640	.058
Susceptibility	1	367.79	6.719	.010*
Them/Epi	1	256.60	4.688	.031**
Gain/Loss	1	2.13	.039	.844
Interaction	1	391.07	7.145	.008*
Within-cell errors	220	54.73		

* $p < .01$

** $p < .051$

The interaction between episodic framing and loss framing on individual attribution of responsibility was non-significant ($F = .256$, $df = 1, 226$, $p > .05$, observed power = .079) (see Table 6). Respondents did not attribute more responsibility to individuals when reading health news stories using episodic loss framing.

Table 5. Means of Cognitive Frames Interacting with Affective Frames on Individual Responsibility

Thematic/Episodic	Gain/Loss	Mean	Std. Deviation	N
Episodic	Gain	33.27	5.78	54
	Loss	33.74	5.37	59
	Total	33.52	5.55	113
Thematic	Gain	32.10	5.49	60
	Loss	31.18	6.43	54
	Total	31.66	5.95	114

There was a main effect for the thematic frame ($F = 4.68$, $df = 1, 226$, $p < .05$, $\eta^2 = .021$, observed power = .578). Respondents who read health stories framed thematically attributed more responsibility to society for the health problem with a mean of 17.21 (See Table 3). There was also a main effect for the episodic frame ($F = 8.215$, $df = 1, 226$, $p < .05$, $\eta^2 = .036$, observed power = .814). Respondents who read health stories framed episodically attributed more responsibility to the individual for the health problem with a mean of 33.52 (see Table 5). There was not a significant main effect for gain or loss frame ($F = .039$, $df = 1, 226$, $p > .05$, observed power = .054) for respondents who read the thematic framed stories or for respondents who read episodic framed stories ($F = .256$, $df = 1, 226$, $p > .05$, observed power = .079) about lung cancer and obesity.

Table 6. ANCOVA Results of Cognitive Frames Interacting with Affective Frames on Individual Responsibility

Variance Source	<i>Df</i>	<i>Ms</i>	<i>F</i>	<i>P</i>
Intentions	1	473.766	15.379	.000*
Need for Orientation	1	31.054	1.008	.316
Susceptibility	1	15.843	.514	.474
Them/Epi	1	253.067	8.215	.005*
Gain/Loss	1	7.871	.256	.614
Interaction	1	41.643	1.352	.246
Within-cell errors	1	30.806		
	220			

* $p < .01$

** $p < .05$

Research Question 1

What role will need for orientation, perceived risk, and behavioral intentions play in how respondents' attribute responsibility for public health issues, such as cancer and obesity?

To increase the precision for estimating the magnitude of the framing effects in this study (Maxwell & Delaney, 2004), the covariates, need for orientation, perceived susceptibility, and behavioral intentions were included in the analyses. First, the dependent variable, societal attribution of responsibility was entered in an ANCOVA with the three covariates (see Table 4). One was significant, one was not, and one approached significance. The covariate perceived susceptibility was significant ($F = 6.71$, $df = 1, 226$, $p < .05$, $\eta^2 = .030$, observed power = .733). Need for orientation approached significance ($F = 3.64$, $df = 1, 226$, $p = .058$, $\eta^2 = .016$, observed power = .476) when gauging attribution of responsibility to society after participants read the

thematic stories. Behavioral intentions was not significant ($F = .132$, d.f. = 1, 226, $p > .05$, observed power = .065).

When the dependent variable, individual attribution of responsibility was entered into an ANCOVA with the three covariates (see Table 6) only behavioral intentions was significant ($F = 15.37$, $df = 1$, 226, $p < .05$, $\eta^2 = .065$, observed power = .974). Need for orientation ($F = 1.008$, $df = 1$, 226, $p > .05$, observed power = .170) and perceived risk ($F = .514$, $df = 1$, 226, $p > .05$, observed power = .110) were not significant.

Research Question 2

How will the thematic, episodic, gain, and loss frames affect participants' emotional responses to the news stories about health problems?

The dependent variables positive emotion and negative emotion were first entered together into a MANCOVA with the independent variables thematic/episodic frame, gain/loss frame and the three covariates, need for orientation, perceived susceptibility and behavioral intentions. MANCOVA was used because two dependent variables were included in this analysis, and MANCOVA protects against Type I errors that might occur if multiple ANCOVAs were conducted independently. Using *Wilks' Lambda*, the analysis showed a significant effect for thematic/episodic framing (*Wilks* $F = 31.91$, $df = 2$, 225, $p < .001$, $\eta^2 = .226$, observed power = 1.00) and gain/loss framing (*Wilks* $F = 16.34$, $df = 2$, 225, $p < .001$, $\eta^2 = .130$, observed power = 1.00). This analysis revealed a significant interaction between thematic/episodic framing and gain/loss framing (*Wilks* $F = 3.89$, $df = 2$, 225; $p < .05$, $\eta^2 = .034$, observed power = .699). All three covariates were significant: need for orientation, (*Wilks* $F = 4.43$, $df = 2$, 225, $p < .05$, $\eta^2 = .039$, observed power = .758, perceived risk), (*Wilks* $F = 3.05$, $df = 2$, 225, $p < .05$, $\eta^2 = .027$, observed power = .586), and behavioral intentions (*Wilks* $F = 3.89$, $df = 2$, 225, $p < .05$, $\eta^2 = .034$, observed power = .698).

Subsequent planned univariate tests (see Table 7) indicated that health news stories using a thematic frame elicited significantly more negative emotions ($F = 5.23$, $df = 1, 226$, $p < .05$, $\eta^2 = .023$, observed power = .624), with a mean of 6.27. Participants responded significantly more positive to health news stories framed episodically ($F = 30.31$, $df = 1, 226$, $p < .01$, $\eta^2 = .121$, observed power = 1.00), with a mean of 3.67. Loss framed health news stories elicited significantly more negative emotion, ($F = 5.37$, $df = 1, 226$, $p < .05$, $\eta^2 = .024$, observed power = .636), with a mean of 6.27 while gain framed caused participants to express significantly more positive emotion ($F = 11.955$, $df = 1, 226$, $p < .05$, $\eta^2 = .049$, observed power = .920), with a mean of 3.48.

Table 7. Means of Univariate Analysis Testing of Cognitive Frames and Affective Frames on Positive and Negative Emotions

	Episodic or Thematic	$M(SE)$	Gain or Loss	$M(SE)$
Emotions				
Positive	Episodic	3.62(.126)**	Gain	3.48(.125)*
	Thematic	2.69(.125)	Loss	2.88(.126)
Negative	Episodic	5.60(.205)	Gain	5.59(.205)
	Thematic	6.26(.204)**	Loss	6.27(.205)*

* $p < .01$

** $p < .05$

Other univariate tests (See Table 7) indicated there was a significant interaction between episodic and gain framed health stories ($F = 6.72$, $df = 1, 226$, $p < .01$, $\eta^2 = .030$, observed power = .733). Participants who read health stories with an episodic gain frame had significantly higher scores on the positive emotion index than participants who read episodic loss, thematic gain, and thematic loss news stories.

In subsequent univariate analyses (see Table 7) on the dependent variable negative emotion, significance was found for need for orientation and perceived susceptibility but not for behavioral intentions. Need for orientation ($F = 8.44$, $df = 1, 226$, $p < .01$, $\eta^2 = .037$, observed power = .825) and perceived susceptibility ($F = 6.03$, $df = 1, 226$, $p < .05$, $\eta^2 = .027$, observed power = .686) were significant. Univariate analyses on the dependent variable positive emotion showed behavioral intentions was significant ($F = 4.71$, $df = 1, 226$, $p < .05$, $\eta^2 = .021$ observed power = .580) but need for orientation and perceived susceptibility were not.

CHAPTER 5: DISCUSSION

Social Responsibility

This study revealed a highly significant interaction between thematic framing and loss framing on societal attribution of responsibility. People who read thematic loss framed stories about lung cancer and obesity attributed significantly more responsibility to society. This finding supports the core tenet of the negativity bias that in most situations, negative information is more salient, potent, dominant in combinations, and generally more effective than positive information (Ito, Larsen, Smith, & Cacioppo, 1998; Pratto & John, 1991; Suslo, Ohrmann, & Arolt, 2001; Rozin & Royzman, 2001).

The negative information used in the thematic loss stories focused on the risks of lung cancer and obesity. Public health prevention and intervention campaigns, as well as the media commonly present health information to the public in terms of risk. The news stories framed lung cancer and obesity as having risks that individuals do not assume fully voluntarily, risks arising from the environment itself and threatening to everyone, and perhaps, knowingly created by others (Nathanson, 1999). As intended, the risk information helped respondents understand the social reasons an individual, including themselves could be at risk for developing lung cancer or becoming obese. The stories explained the fundamental causes beyond individual behavior that can lead to lung cancer and obesity. They emphasized solutions to remove the underlying social conditions that lead to lung cancer and obesity and they carefully connected the dots for the reader to present a broader causal and treatment picture of these two health problems.

The results of this research indicate combining the thematic frame with the loss frame is the most effective way to get people to see society's role in these health problems. The loss information in the stories was not so alarming that respondents dealt with their fear instead of

processing the risk information, but strong enough to capture their attention and stimulate complex information processing and decision making, the kind of decision making that leads to collective public action to remove the conditions that cause health problems. This finding is important because health communication literature clearly shows prevention campaigns targeting individual behavior have limited success while changes in public policy can affect thousands of people. It is also significant because recent public opinion data show the public still attribute responsibility for obesity to the individual (Oliver & Lee, 2005). The findings of this research indicate a thematic loss frame can cause a shift in attribution from the individual to the society.

When answering the open-ended questions, several respondents who received the thematic loss framed stories commented on their shock about the risks associated with secondhand smoke exposure and the escalating obesity levels among minorities and the poor. Their comments indicate there is a lack of thematic news coverage of these two issues and a low level of public awareness.

Individual Responsibility

Although there was not a significant interaction between episodic framing and loss framing on individual attribution of responsibility when the lung cancer and obesity stories were analyzed together, a significant interaction did occur when obesity was examined alone. Participants who read the episodic loss framed news story about obesity attributed significantly more responsibility to the individual for the health problem. These same participants who read the episodic loss framed story about lung cancer did not attribute significantly more responsibility to the individual for the health problem. The index gauging individual attribution consisted of statements about hard work leading to success representing the core of American individualism. This finding is supported by previous research that found most Americans still

view obesity as resulting from individual failure rather than environmental or genetic sources (Oliver & Lee, 2005). These findings may reflect the conventional ways that the media have framed obesity as a problem of individual behavior (Lawrence, 2004), and lung cancer as one for which individuals are not entirely to blame.

Doctors and other health advocates continually urge individuals to make better choices, as does the Bush administration, which has made obesity one of its primary health focal points. The White House's fitness web site implores people to be accountable for their own health: "Make Healthy Choices. Be Physically Active Each Day. Eat a Nutritious Diet. Get Preventive Screenings" (The President's Council on Physical Fitness and Sports, 2006). As these examples illustrate, obesity has been framed as a problem only the individual can solve. Obesity as a disease has not been scrutinized on a societal level in this culture the way lung cancer and other diseases have.

In the episodic loss framed story about lung cancer, the main character stopped smoking years ago, but did not avoid secondhand smoke. Many people have been and continue to be exposed to secondhand smoke. Recently, the media have paid a significant amount of attention to the dangers of secondhand smoke. Respondents may have related to this story and did not blame the victim for his exposure to secondhand smoke. Perhaps the risks associated with secondhand smoke or other toxins causing lung cancer are ones individuals do not assume fully voluntarily. They may see these risks as arising from the environment itself and threatening to everyone.

Participants might have responded differently if the victim had never quit smoking, but smoking is highly addictive and society has not entirely blamed smokers for their own behavior. The role of the tobacco industry in aggressively marketing an addictive product has been under scrutiny for years (Lawrence, 2004). In contrast, the person in the episodic loss framed obesity

story is obese and has failed to lose weight. According to the open-ended comments, although he continues to try to lose weight, his failure to do so is his own personal responsibility.

Individual Differences and Social Responsibility

All respondents showed a significant increase in societal attribution of responsibility after reading health stories that used combined thematic and loss framing even after controlling for these individual differences. This finding was significant across stories about both lung cancer and obesity. Need for orientation gauges the relevance of an issue to a person and his or her level of certainty or how much he or she knows about an issue. Individual differences across audience members on need for orientation can be vast and have a significant influence on how they attribute responsibility for different health issues. For example, someone who has lost a large amount of weight on their own may attribute more responsibility to the individual for obesity because of his or her experience. One participant mentioned this exact experience in the additional comments section of the questionnaire.

Perceived susceptibility measures an individual's perceived risk of developing the health problem. A person who operates from a position of low risk may not take any level of risk seriously, and a person who operates from a position of high risk may overreact and shut down instead of processing information. In this study, the thematic loss frame offered the perfect balance and appeal to individuals across all levels of perceived susceptibility for creating a sense of responsibility that includes social responsibility.

Individual Differences and Individual Responsibility

When need for orientation, perceived susceptibility, and behavioral intentions were analyzed with the dependent variable individual attribution of responsibility only behavioral intentions produced a significant finding. After controlling for individual differences in

behavioral intentions, participants who read health news stories framed episodically showed a significant increase in individual attribution of responsibility. Respondents who read the episodically framed stories believed if individuals worked hard enough they could avoid lung cancer and obesity. Whether a person practices healthy behaviors or not when reading episodically framed stories about lung cancer and obesity, he or she believed the individual should be responsible for the health problem. Even if the individual held society as partly to blame for the problem, he or she still believed the individual has the power through hard work to avoid lung cancer and becoming obese.

Negative Emotions

When controlling for need for orientation and perceived susceptibility, the thematic framed stories and loss framed stories generated significantly more negative emotions from participants. Need for orientation measures how important the health problem is to someone and how much he or she knows about the health problem, and perceived susceptibility measures a person's perceived chance of getting the disease. The participants responded significantly more negatively to the loss framed stories. Studies show that negative affective states promote the use of more elaborated, detail-oriented processing (Schwarz, 1990). In this study, loss language elicited a negative response whether the person considered the health problem relevant or not or if the person's perceived susceptibility was high or low, loss language elicited a negative response. This is important because it shows the power of loss language to intensify effects despite individual backgrounds. Although this study did not test combined thematic and episodic stories, journalists frequently combine these two frames within one story. It is possible that an episodic loss frame might diminish the effect of a thematic loss frame. For example, participants who read the obesity thematic loss story blamed society for obesity, but those who read the

obesity episodic loss story blamed the individual for obesity. Again, using an episodic frame could diminish the effect of the thematic loss frame.

It is not surprising that participants would respond more negatively to the loss framed stories. The thematic and episodic loss stories were written so that loss language was emphasized. The episodic stories detailed one man's failure to lose weight and another man's losing battle with lung cancer. The stories did not have happy, triumphant endings. Participants received realistic stories about how difficult it is to lose weight and how bleak the outlook for someone with lung cancer is. Negative stories generate negative emotions.

There was a significant negative response to the thematic stories. While the thematic gain news stories framed the health problems using language that emphasized gains over losses, participants responded more negatively to the thematic stories. In all likelihood, this occurred because the stories still communicated the risks associated with obesity and lung cancer to the readers even though the stories used gain instead of loss language.

The thematic gain framed obesity story simply changed the study findings presented in the story from "teens in poorer neighborhoods have access to fewer recreational facilities and are more obese" to "teens in wealthier neighborhoods have greater access to more recreational facilities and are thinner." No matter how positive a spin one tries to put on that story, someone is negatively affected. The language may be positive, but the outcome is still negative. The thematic gain framed story about lung cancer presented findings from a study presenting positive benefits for bartenders after a smoking ban went into effect. The story also discussed how much healthier children are growing up in a non-smoking environment. In those stories, both the language and the outcomes are positive. The risks children face when exposed to secondhand smoke are quite clear.

The results of this study provide ample evidence supporting a "negativity bias" toward information, meaning that individuals give more weight to negative information than positive information. Researchers argue this tendency originates from the idea that people expect positive information, making negative information more surprising or threatening, and enhancing processing (Petty & Wegener, 1998). The negative information caused respondents to demonstrate significantly more negative feelings about the thematic framed and loss framed stories all of which contained negative information. Once individuals are in a negative affective state, they are more likely to focus on the situation that elicited the negative emotions and less likely to be distracted (Isen, 1984). Negative affect leads to more thoughtful decision making due to increase analytic processing in individuals.

This process best explains the significant findings in this study particularly the increase in societal attribution after reading the thematic loss framed stories. These stories presented readers with negative information that elicited significantly more negative feelings. The theory of affective intelligence posits individuals use emotion, specifically negative ones, to think deeply about their opinions (Marcus, Neuman, & MacKuen, 2000). Instead of emotions clouding judgment and causing people to act unreasonably, they help people make more thoughtful decisions.

Positive Emotions

The participants felt significantly more positive emotion after reading the episodic stories and the gain framed stories when controlling for the effects of behavioral intentions. Behavioral intentions measure a person's response efficacy. Participants in this study were asked to respond to statements about avoiding secondhand smoke, quitting smoking, exercising, and eating healthy foods. Need for orientation and perceived susceptibility were not significant. There was a

significant interaction between episodic framing and gain framing on the dependent variable positive emotions when controlling for behavioral intentions.

Both episodic gain stories featured people who were successful in dealing with a health problem. It is no surprise that participants would respond significantly more positively to these stories – positive success stories elicit positive emotions. Research on how emotions affect cognitive processing shows that positive affect decreases systematic processing. People expect positive information so no alarm bells were set off in the reader's mind. The highly significant interaction between episodic and gain framing can help public health experts immensely in advancing thematic coverage of health problems. The episodic gain frame could introduce hope in a thematic loss story. Researchers have found stories with only threat messages are not as successful as stories with threat and hope messages.

In their research on political learning, Nadeau, Niemi, and Amato (1995) found that while negative threatening information stimulates greater interest and learning, it was only with the introduction of hope or successful treatment that people's views were altered. These researchers contend when there is hopelessness, no amount of threat stimulates greater interest and learning. Threat alone may not be sufficient because it may cause people to withdraw, but hope alone is insufficient because it may lead to wishful thinking. The thematic loss frame may lead the public to perceive a threat and place causal responsibility on society, but an episodic gain frame or thematic gain frame will trigger hope of success. Understanding the link between news frame combinations and emotions is critical to advancing the public health model of reporting.

Main Effects

The results also revealed main effects for thematic and episodic framing of health news stories. Participants who read the thematically framed stories about lung cancer and obesity

attributed significantly more responsibility to society for the problems. Those who read the episodically framed news stories attributed significantly more responsibility to the individual for the health problems. These findings are to be anticipated given other studies showing the same thing (Iyengar, 1991; Krause, 1997; Niemi & Weisberg, 1993) A main effect of thematic framing on increased societal attribution of responsibility demonstrates the ability of these respondents to think of lung cancer and obesity in much broader terms of underlying causes and blame. For years, some public health experts and the news media have framed obesity in terms of individual behavior and responsibility (Lawrence, 2004). While lung cancer has been successfully reframed as the responsibility of tobacco companies, this study shows people can see beyond a smoking addiction to other societal forces such as exposure to secondhand smoke, radon gas, asbestos, and air pollution that contribute to an individual developing lung cancer.

This research differs from other studies on framing public health issues because previous researchers framed issues such as violence and poverty as public health problems then tested the effects of the public health model of reporting on those same issues. Iyengar (1991) had already shown that framing violence and poverty thematically would result in people attributing more responsibility to society for those same problems. The findings of this study are consistent with previous research showing news reports that construct social issues around specific instances and individuals (episodic framing) increase individual attribution of responsibility. In contrast, coverage emphasizing broader trends and social conditions (thematic framing) is thought to foster a sense of shared responsibility and spur collective action. Based on the results of this study, scholars can apply the same framing concepts to traditional health problems.

The gain and loss frames did not produce a significant main effect. Shah, Kwak, Schmierback, and Zubric (2004) reported a similar finding in their study on the interplay of news

frames on information processing. Their study combined individual and societal framing with gain and loss framing to measure the complexity of individuals' thoughts concerning urban growth. They found the frames only worked in combination generating more detailed cognitions about the causes, components, and consequences of urban growth. This current research revealed similar results. Gain and loss framing always appear in combination with either episodic or thematic framing or some combination of the two. Prior studies that discovered no effects of gain and loss news frames, or that found confusing or minimal effects, may have neglected to attend to an interaction among frames embedded in experimental stimuli. This study and the work of Shah et al., (2004) support the concept that multiple frames, acting together, have effects that go beyond what would be predicted by summing the individual outcomes of the frames.

Summary

This current research reveals thematic framing combined with loss framing significantly increased participants attribution of social responsibility. Participants supported statements that partly blamed lack of education, low wages, and discrimination for lung cancer and obesity. Future research must address the different levels of attribution of responsibility including causal responsibility (creation of the problems) and treatment responsibility (resolution of these problems or situations). For public health experts to achieve their goal of changing the way the public thinks about health problems, attribution of causal responsibility and treatment responsibility must be investigated.

While this study revealed the significance of thematic loss frames on attribution of responsibility, including the significance of negative information and negative emotion, thematic gain frames and episodic gain frames must also be considered when studying attribution of responsibility. Understanding the influence of episodic frames combined with gain and loss

frames on the public is crucial as is comprehending the effect of combining episodic and thematic frames in news stories. This research showed that the episodic loss framed obesity story caused an increase in individual attribution of responsibility, but this was not the case for lung cancer. Reporters believe telling the story through the experience of a single individual increases readership or viewership by drawing people into the story. Local news especially operates on the concept that audience members must be able to relate the story to their own lives. They believe the audience is looking for a “what's in it for me” story with personal relevance. Public health experts must understand how journalists operate and use it to their advantage.

Journalists are not likely to abandon episodic framing altogether because that is the type of frame that generates personal relevance in audiences putting eyes on papers and television screens.

Public health experts need to find a way to work within the constraints of journalism.

CHAPTER 6 - CONCLUSIONS

The news media play a powerful, influential role in promoting, discouraging, or even inhibiting healthy behaviors. Many public health experts argue the news media's unrelenting use of episodic framing when reporting health problems and lack of thematic framing harms more than it helps (Dorfman, 2003; Schwitzer et al., Wallach et al., 1993). This study was designed to create the knowledge needed to develop more effective news coverage of health issues. Through intersecting gain/loss frames with thematic/episodic frames in health stories, this research advances framing theory by showing how combined news frames intensify framing effects. This research also produced significant results that could make the work of public health experts more effective and meaningful.

The findings of this study strongly indicate combined news frames influence framing effects. While this study only included stories about health issues, in all probability this effect would be found across other issues. For decades, researchers have studied the effects of single news frames such as thematic episodic and gain loss on audience members, but the majority has made no attempt to test frame interactions. This is a serious oversight in framing theory research because single-frame stories do not represent real news stories. Real news stories contain crosscutting frames. To truly understand framing effects requires testing the influence of combined news frames as this current research does.

In this study, the combination of the thematic loss frames and episodic gain frames led to significant findings. These results clearly support the theoretical argument that intersecting frames generate more detailed information processing among audiences and intensify media effects. The findings have implications for future research on the use of news frames to discuss health and other policy issues. Future studies must examine the influence of intersecting thematic

loss/gain frames with episodic loss/gain frames within the same story. For example, a story might begin with an episodic loss/gain frame then transition to a thematic loss/gain frame. This type of framing is very common in news coverage.

In addition, combined frames describing different levels of causal and treatment attribution of responsibility must be investigated. For instance, a story could talk about the cause of a health problem using a thematic loss frame in combination with a thematic gain frame or episodic gain/loss frame that discusses possible treatments or solutions for the health problem. Furthermore, future studies must test frame combinations across other issues including health to clarify the reasons for the interactive effects. These current findings also have implications for future research in media psychology that tests the effects of news frame intersection on the psychological complexities of individual cognitive responses. Even without adding new framing categories or conceptualizations, the existing relationships among frame dimensions defined in existing research demand further examination.

The findings of this study also provide key information for public health experts to use in their work with the news media. Public health experts want to increase thematic framing of health problems as a strategy to endorse and improve public health. They believe they can use the news media to influence public debate and put pressure on policymakers by turning up the volume of the public health voice and by boosting the visibility of the standards, people, and issues behind the voice (Wallach et. al, 1993). Up to this point, public health experts have focused their energy solely on changing the way journalists frame health news while failing to conduct research on how those changes could affect audience members. The lack of attention to audience members has left a sizable gap in the knowledge base public health experts need to achieve their objective. This study fills the chasm in knowledge by successfully testing the

public health model of reporting and offering specific ways in which societal attribution for health problems can be increased.

In this study, the thematic loss frame significantly increased societal attribution of responsibility. In other words, framing contextual information about the underlying causes of and solutions to health problems in terms of loss is the most effective way to communicate responsibility attribution to audience members. The media have often been criticized for giving more attention to negative stories indicating the presence of risks than to positive ones indicating the absences of risks (Cohen, 1983; Siegrist & Cvetkovich, 2001). Using a loss frame will appeal to the news media and possibly make it easier for public health experts to get the media to use thematic framing in their stories.

To achieve this goal, however, public health experts first must familiarize themselves with the demands of the news business. They need to understand how journalists work and use it to advance their goals. Newspaper and television reporters frequently use individual stories of success and failure because Americans are interested in audiences are interested in these types of stories. Audiences also pay attention to stories that are personally relevant and many times this connection is made through episodic stories. Journalists are not going to abandon the use of stories about individuals. Episodic stories generate audiences, which is a primary concern of journalists. Because research shows stories containing a threat message are more effective when a hope message is included, public health experts could provide journalists with thematic loss information in order to explain health problems as well as an individual story of hope to attract audience members.

Many journalists are uncomfortable with the idea of advocating certain behaviors or ways of thinking because they believe it is their duty to inform the public and not influence behavior.

This conflict might be alleviated by providing journalists with as much information as possible and thoroughly explaining the broader context of the health problem. Furthermore, public health experts need to make themselves and data available to the news media. Dorfman (2003) emphasized that journalists need local data to make national problems relevant for their audiences. This would help journalists learn about local patterns and incorporate that information into daily stories to provide citizens with the information they need to make better decisions, including decisions about societal attribution.

Public health experts also need to cultivate spokespeople the media can rely on when they are covering a public health story. Returning to the example of the poorer neighborhoods with fewer places to exercise and fewer stores offering healthier food options, the media need access to stakeholders who are familiar with the direct benefits. Most journalists face daily deadlines and do not have time for lengthy investigative stories about health topics. If public health experts provide journalists with more information and access to sources, the relationship between the two will be much more beneficial for both. One way to provide public health experts with the skills they need to work with reporters is for schools of public health to offer in-depth media training to their students.

Public health experts face many challenges in their efforts to advance the public health model of reporting. In the end, they must make sure the public health story gets told. This means gaining a thorough understanding of how news frames and the combination of new frames affect audience members. Furthermore, public health experts must learn about the demands of the news business and make a sincere effort to work with journalists based on those demands. This study offers public health experts the information they need to tell the public health story in the most

effective way. As a whole, this study provides the foundation for a promising avenue of research in health communication and media effects.

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APPENDIX A: QUESTIONNAIRES

Please complete this questionnaire after you read the story about lung cancer. Answer the following question based on the story you just read. Please use complete sentences to respond.

Suppose a friend came to visit you and he or she has not read this story. How would you describe this story to that friend?

Please respond to the following statements with the story you just read in mind. Indicate the degree to which you agree or disagree with each of the statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree						Strongly Agree
1. I believe lung cancer is a significant health problem.	1	2	3	4	5	6	7
2. I believe lung cancer has serious negative consequences.	1	2	3	4	5	6	7
3. I believe lung cancer is a severe health problem.	1	2	3	4	5	6	7
4. I believe the government should spend money on lung cancer research and prevention.	1	2	3	4	5	6	7
5. I believe low wages in some businesses and industries are partly to blame for lung cancer.	1	2	3	4	5	6	7
6. Failure of society to provide good schools for many Americans is partly to blame for lung cancer.	1	2	3	4	5	6	7
7. Prejudice and discrimination against minorities in America are partly to blame for lung cancer.	1	2	3	4	5	6	7

	Strongly Disagree					Strongly Agree	
8. Access to cigarettes is partly to blame for lung cancer.	1	2	3	4	5	6	7
9. I believe lung cancer is an individual problem.	1	2	3	4	5	6	7
10. People who have lung cancer should not blame society; they have only themselves to blame.	1	2	3	4	5	6	7
11. If people work hard, they can quit smoking.	1	2	3	4	5	6	7
12. Any person who is willing to work hard has a good chance of succeeding.	1	2	3	4	5	6	7
13. If people work hard, they can avoid secondhand smoke.	1	2	3	4	5	6	7

Please answer the following questions with the story you just read in mind. Indicate your emotional response to the story by responding to each question. Circle the number that most closely corresponds with your feelings. (7) means "very much," (4) means "neutral," and (1) means "not at all."

	Not at All					Very Much	
14. How surprised did this story make you feel?	1	2	3	4	5	6	7
15. How startled did this story make you feel?	1	2	3	4	5	6	7
16. How irritated did this story make you feel?	1	2	3	4	5	6	7
17. How angry did this story make you feel?	1	2	3	4	5	6	7
18. How sad did this story make you feel?	1	2	3	4	5	6	7

	Not at All						Very Much
19. How depressed did this story make you feel?	1	2	3	4	5	6	7
20. How fearful did this story make you feel?	1	2	3	4	5	6	7
21. How afraid did this story make you feel?	1	2	3	4	5	6	7
22. How guilty did this story make you feel?	1	2	3	4	5	6	7
23. How ashamed did this story make you feel?	1	2	3	4	5	6	7
24. How happy did this story make you feel?	1	2	3	4	5	6	7
25. How cheerful did this story make you feel?	1	2	3	4	5	6	7
26. How motivated did this story make you feel?	1	2	3	4	5	6	7
27. How energized did this story make you feel?	1	2	3	4	5	6	7
28. How bored did this story make you feel?	1	2	3	4	5	6	7
29. How uninterested did this story make you feel?	1	2	3	4	5	6	7

Please respond to the following statements with the story you just read in mind. Please indicate the degree to which you agree or disagree with each of the following statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree						Strongly Agree
30. The arguments in the story were exaggerated.	1	2	3	4	5	6	7

	Strongly Disagree				Strongly Agree			
31. The arguments in the story were convincing.	1	2	3	4	5	6	7	
32. The arguments in the story were distorted.	1	2	3	4	5	6	7	
33. This story was an accurate description of lung cancer.	1	2	3	4	5	6	7	
34. This story was clearly written.	1	2	3	4	5	6	7	
35. I clearly understood this story.	1	2	3	4	5	6	7	
36. The quality of arguments in this story is good.	1	2	3	4	5	6	7	

Please indicate the degree to which you agree or disagree with each of the following statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree				Strongly Agree		
37. I am at risk for lung cancer.	1	2	3	4	5	6	7
38. It is likely I will develop lung cancer.	1	2	3	4	5	6	7
39. It is possible I will develop lung cancer.	1	2	3	4	5	6	7
40. I believe lung cancer is a serious threat to my health.	1	2	3	4	5	6	7
41. I am able to prevent developing lung cancer.	1	2	3	4	5	6	7

	Strongly Disagree					Strongly Agree	
42. Preventing lung cancer is easy for me.	1	2	3	4	5	6	7
43. Not smoking is easy for me.	1	2	3	4	5	6	7
44. Not smoking is inconvenient for me.	1	2	3	4	5	6	7
45. Avoiding secondhand smoke is easy for me.	1	2	3	4	5	6	7
46. Avoiding secondhand smoke is inconvenient for me.	1	2	3	4	5	6	7
47. For the next month, I intend not to smoke.	1	2	3	4	5	6	7
48. For the next 6 months, I intend not to smoke.	1	2	3	4	5	6	7
49. For the next month, I intend to avoid secondhand smoke.	1	2	3	4	5	6	7
50. For the next 6 months, I intend to avoid secondhand smoke.	1	2	3	4	5	6	7

Please respond to the following:

51. I know someone who has lung cancer.

_____Yes _____No

52. If you know someone who has lung cancer, is this individual:
(Please check all that apply.)

_____a family member _____a friend _____an acquaintance _____a neighbor

53. I know many people who have lung cancer.

_____Yes _____No

54. I know someone who has died from lung cancer.

_____Yes _____No

55. Either currently or in the past, I have talked with someone about lung cancer.

_____Yes _____No

Additional Comments:

Please complete this questionnaire after you read the story about obesity. Answer the following question based on the story you just read. Please use complete sentences to respond.

Suppose a friend came to visit you and he or she has not read this story. How would you describe this story to that friend?

Please respond to the following statements with the story you just read in mind. Indicate the degree to which you agree or disagree with each of the statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree						Strongly Agree
1. I believe obesity is a significant health problem.	1	2	3	4	5	6	7
2. I believe obesity has serious negative consequences.	1	2	3	4	5	6	7
3. I believe obesity is a severe health problem.	1	2	3	4	5	6	7
4. I believe the government should spend money on obesity research and prevention.	1	2	3	4	5	6	7
5. I believe low wages in some businesses and industries are partly to blame for obesity.	1	2	3	4	5	6	7
6. Failure of society to provide good schools for many Americans is partly to blame for obesity.	1	2	3	4	5	6	7
7. Prejudice and discrimination against minorities in America are partly to blame for obesity.	1	2	3	4	5	6	7
8. Access to fast food is partly to blame for obesity.	1	2	3	4	5	6	7

	Strongly Disagree						Strongly Agree	
9. I believe obesity is an individual problem.	1	2	3	4	5	6	7	
10. People who are obese should not blame society; they have only themselves to blame.	1	2	3	4	5	6	7	
11. If people work hard, they can keep from being obese.	1	2	3	4	5	6	7	
12. Any person who is willing to work hard has a good chance of succeeding.	1	2	3	4	5	6	7	
13. If people try, they can have access to healthy food.	1	2	3	4	5	6	7	

Please answer the following questions with the story you just read in mind. Indicate your emotional response to the story by responding to each question. Please circle the number that most closely corresponds with your feelings. (7) means "very much," (4) means "neutral," and (1) means "not at all."

	Not at All						Very Much	
14. How surprised did this story make you feel?	1	2	3	4	5	6	7	
15. How startled did this story make you feel?	1	2	3	4	5	6	7	
16. How irritated did this story make you feel?	1	2	3	4	5	6	7	
17. How angry did this story make you feel?	1	2	3	4	5	6	7	
18. How sad did this story make you feel?	1	2	3	4	5	6	7	

	Not at All						Very Much
19. How depressed did this story make you feel?	1	2	3	4	5	6	7
20. How fearful did this story make you feel?	1	2	3	4	5	6	7
21. How afraid did this story make you feel?	1	2	3	4	5	6	7
22. How guilty did this story make you feel?	1	2	3	4	5	6	7
23. How ashamed did this story make you feel?	1	2	3	4	5	6	7
24. How happy did this story make you feel?	1	2	3	4	5	6	7
25. How cheerful did this story make you feel?	1	2	3	4	5	6	7
26. How motivated did this story make you feel?	1	2	3	4	5	6	7
27. How energized did this story make you feel?	1	2	3	4	5	6	7
28. How bored did this story make you feel?	1	2	3	4	5	6	7
29. How uninterested did this story make you feel?	1	2	3	4	5	6	7

Please respond to the following statements with the story you just read in mind. Please indicate the degree to which you agree or disagree with each of the following statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree					Strongly Agree	
30. The arguments in the story were exaggerated.	1	2	3	4	5	6	7

	Strongly Disagree					Strongly Agree	
31. The arguments in the story were convincing.	1	2	3	4	5	6	7
32. The arguments in the story were distorted.	1	2	3	4	5	6	7
33. This story was an accurate description of obesity.	1	2	3	4	5	6	7
34. This story was clearly written.	1	2	3	4	5	6	7
35. I clearly understood this story.	1	2	3	4	5	6	7
36. The quality of arguments in this story is good.	1	2	3	4	5	6	7

Please indicate the degree to which you agree or disagree with each of the following statements by circling a number. (7) means "strongly agree," (4) means "neutral" and (1) means "strongly disagree."

	Strongly Disagree					Strongly Agree	
37. I am at risk for obesity.	1	2	3	4	5	6	7
38. It is likely I will become obese.	1	2	3	4	5	6	7
39. It is possible I will become obese.	1	2	3	4	5	6	7
40. I believe obesity is a serious threat to my health.	1	2	3	4	5	6	7
41. I am able to prevent becoming obese.	1	2	3	4	5	6	7
42. Preventing obesity is easy for me.	1	2	3	4	5	6	7

	Strongly Disagree					Strongly Agree	
43. Exercising is easy for me.	1	2	3	4	5	6	7
44. Exercising is inconvenient for me.	1	2	3	4	5	6	7
45. Eating healthy is easy for me.	1	2	3	4	5	6	7
46. Eating healthy is inconvenient for me.	1	2	3	4	5	6	7
47. For the next month, I intend to exercise.	1	2	3	4	5	6	7
48. For the next 6 months, I intend to exercise.	1	2	3	4	5	6	7
49. For the next month, I intend to eat healthier food.	1	2	3	4	5	6	7
50. For the next 6 months, I intend to eat healthier food.	1	2	3	4	5	6	7

Please respond to the following:

51. I know someone who is obese.

_____Yes _____No

52. If you know someone who is obese, is this individual:
(Please check all that apply.)

_____a family member _____a friend _____an acquaintance _____a neighbor

53. I know many people who are obese.

_____Yes _____No

54. I know someone who has died from an obesity related illness.

_____Yes _____No

55. Either currently or in the past, I have talked with someone about obesity.

_____Yes _____No

Additional Comments:

APPENDIX B: CODING SHEET AND CODING BOOK

Coding Sheet for Thematic and Episodic Statements

Each statement should be placed in a category. Place a check next to the category that best describes the statement. Code message relevant statements only. If a statement does not fit in any of the categories listed below; write the statement at the bottom of the page under the other category.

Participant Number _____

Condition Number _____

Health issue: Obesity
 Lung Cancer

(1) Study (T) _____

(2) Study Findings (T) _____

(3) Policy (T) _____

(4) Societal Risk Factors (T) _____

(5) Societal Advocacy (T) _____

(6) Individual Story (E) _____

(7) Personal History (E) _____

(8) Personal Risk Factors (E) _____

(9) Treatment, Diagnosis, Prognosis (E) _____

(10) For Family (E) _____

(11) Individual Progress (E) _____

(12) Individual Advocacy (E) _____

(13) Other:

Coding Book for Thematic and Episodic Statements

Participant number - write the participant number in the designated space.

Condition number - write the condition number in the designated space.

Health issue - circle the health issue described in the article.

1) Study (T) - place the statement in this category if the participant mentions the study described in the article. For example, "This article talked about an obesity study," or "This story was about a study on the effects of secondhand smoke on casino patrons."

2) Study Findings (T) - place the statement in this category if the participant mentions study findings described in the article. For example, "Teens living in poorer neighborhoods have fewer places to exercise," or "Bartender's lung functioning improved after working for several weeks in a smoke-free environment."

3) Policy (T) - place the statement in this category if the participant mentions policies related to the health issue discussed in the article. For example, "More and more local governments are approving smoking bans," or "Cities need support policies that would build more exercise facilities in poorer neighborhoods."

4) Societal Risk Factors (T) - place the statement in this category if the participant mentions broad societal risk factors. For example, "Secondhand smoke contains carcinogens known to cause cancer," or "Obesity-related illnesses included Type II diabetes and heart disease."

5) Societal Advocacy (T) - place the statement in this category if the participant mentions the work groups to improve health conditions for the larger community. For example, "Citizens against secondhand smoke work together to increase the number of smoking bans in cities around the U.S." or "The group American on the Move helps promote health communities across the U.S."

6) Individual Story (E) - place the statement in this category if the participant mentions that this article is about an individual's journey or experience with the health issues. For example, "This article details one man's experience with lung cancer," or "This story is about a man's attempts to lose weight."

7) Personal History (E) - place the statement in this category if the participant mentions the personal history of the main character in the story. For example, "Levitt played in a jazz band" or "Laham used to play sports outside with his friends."

8) Personal Risk Factor (E) - place the statement in this category if the participant mentions a personal risk factor of the main character in the story. For example, "Levitt stopped smoking years ago, but did not avoid secondhand smoke," or "Laham ate fried foods, and other unhealthy things."

9) Treatment, Diagnosis, and/or Prognosis (E) - place the statement in this category if the participant mentions the treatment, diagnosis, and/or prognosis of the main character. For example, "Levitt was diagnosed with lung cancer," or "Laham's blood pressure and cholesterol levels are under control."

10). For Family (E) - place the statement in this category if the participant mentions the family of the main character. For example, "Levitt knows he does not have much time to spend with his family," or "Laham wants to be around to see his granddaughter grow up."

11). Individual Progress (E) - place the statement in this category if the participant mentions the progress of the main character. For example, "Levitt knows he is very lucky to be alive," or "Laham has a long way to go with his weight loss."

12) Individual Advocacy (E) - place the statement in this category if the participant mentions the advocacy work of the main character. For example, "Levitt helps other lung cancer by helping them get their medicine and insurance claims filed, or "Laham talks with others in weight watchers and encourages them to lose weight."

13) Other - if statement does not fit in other categories, write the statement below.

VITA

Lesa Hatley Major is an assistant professor at Indiana University in Bloomington, Indiana, in the School of Journalism. Her research interests focus primarily on health communication and minorities and communication.

Professionally, she has ten years of experience as a journalist including working as a TV general reporter, health reporter, and as an anchor for the 6 p.m. and 10 p.m. newscast. She worked as an assistant news director, music director, and general reporter in radio. She also spent six years counseling university and community college students from disadvantaged backgrounds and served as student activities director at a community college in Waco, Texas.

More recently, she worked as the Director of Development for the College of Nursing at Northwestern State University in Shreveport, Louisiana, and as the Assistant Director of Institutional Advancement at Northwestern State University in Natchitoches, Louisiana. She also has narrated several television educational projects and a PBS documentary on World War II.

She holds a Bachelor of Arts degree in broadcast journalism from Northwestern State University, a Master of Arts in student services with a concentration in counseling and educational psychology, and the degree of Doctor of Philosophy in mass communication from Louisiana State University. She has also taken courses in the School of Public Health and Tropical Medicine at Tulane University.